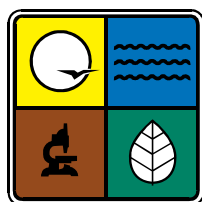
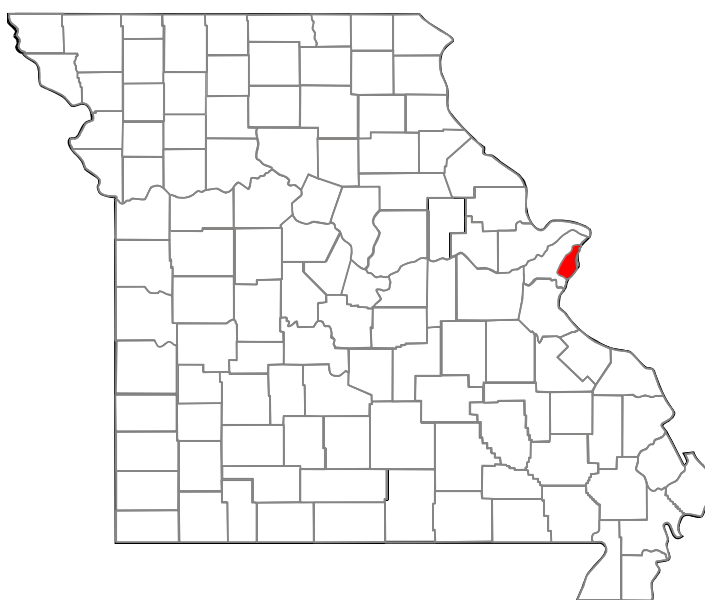


# **SITE RE-ASSESSMENT / PRE- CERCLIS SITE SCREENING / DESK TOP REVIEW REPORTS**

Former St. Louis Lead and Zinc Smelters and  
Processing Sites  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program

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## **Former St. Louis Lead and Zinc Smelters and Processing Sites Pre-CERCLIS Site Screening and Site Reassessment Narrative Summary Report**

### **A. Introduction**

The Missouri Department of Natural Resources (department), through a Cooperative Agreement with the U.S. Environmental Protection Agency (EPA), conducted Desk Top Reviews (DTR), a Pre-CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) Site Screenings (SS), and/or Site Reassessment (SR) at fifteen Former St. Louis Lead and Zinc Smelters and Processing Sites (St. Louis Smelters). The purpose of these investigations was to determine whether the sites warrant entry onto CERCLIS, EPA's inventory of potential hazardous substance sites that are evaluated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). A site warrants entry onto CERCLIS if there is a release of a hazardous substance into the environment, or a substantial threat of such a release, which may present a danger to human health or the environment.

The St. Louis Smelters are located along industrial corridors in various neighborhoods within the City of St. Louis, Missouri. These smelters operated from as early as 1837 to as late as 2001, and handled from as little as 1 ton to as much as 150,000 tons of material per year. These facilities processed lead or zinc as either a primary smelter or as a producer of lead shot or white lead for use in paint. Historical information is not available for all the smelters so the years of operation could be incomplete, the commodities handled could be lacking, and the tons of commodity handled may be unknown. See Table 1 in Section I Part B for specific information on each smelter. In November of 2003, a citizen petitioned the EPA to determine the potential for soil contamination resulting from operation of former lead smelters within the City of St. Louis (Reference 5). The Pre-CERCLIS SS and SR investigations were initiated in order to determine whether lead or zinc from these historic facilities spread to the surrounding areas and remained to cause significant contamination that may pose a threat to human health and the environment. The scope of this investigation included a review of available information, sampling of environmental media, and the collection of additional, non-sampling information. The investigation included many meetings with federal, state, and local officials beginning in fall of 2003, several windshield surveys in November 2003 and sampling events in fall of 2004 and January 2005.

This narrative summary report provides an overview of the 15 smelter sites. The accompanying SR, SS and DTR reports discuss each site separately in detail.

### **B. Site Description**

The Former St. Louis Lead and Zinc Smelting and Processing Sites include the locations of the former processing facilities and nearby areas potentially impacted by contamination originating from the processing activities. For a description of each of the smelter sites, refer to the individual Pre-CERCLIS SS, SR, or DTR reports. A site map showing the 15 smelters included in the St. Louis Smelter site is presented in Section I Part A. For the purposes of this report each "site" is an area of approximately one mile or less surrounding the location of the former processing facility, each

## **Former St. Louis Lead and Zinc Smelters and Processing Sites Pre-CERCLIS SS and SR Narrative Summary Report**

“sample location” is the area where sampling occurred (i.e. a park or residential house), and each “sampling unit” is a subdivision of the sample location (i.e. the area of a swing set within a park). The sites were identified through reviews of historic documents along with documentation provided by the EPA. The sites are listed in an inventory maintained by the department.

There are many private residences, parks, playgrounds, daycares and schools located within one mile of each site. These residential areas have evolved over time, with houses and apartments having been built, later torn down and rebuilt again. In the process, the natural topography of the land has been altered numerous times. The parks in these areas, however, have remained relatively unchanged.

For this investigation, nine smelter sites were selected for sampling. Public or city owned property was selected within 1 mile of the former smelter location. The remaining six smelters were not sampled due to limited available surface soil and/or lack of residential areas within 1 mile of the smelter. More information on these six smelters is found in the DTR reports accompanying this report.

### **C. Site History**

For nearly 150 years, the state of Missouri has been one of the world’s largest producers of lead and zinc metals. Historically, lead and zinc ores were mined; milled by crushing and separation; and transported to smelters throughout the state to be processed into raw metals.

The department maintains an inventory of lead and zinc smelters in Missouri. The majority of the smelters on the inventory are historic facilities that range from a primitive furnace that smelted as little as one ton of ore from one small lead mine to large smelters that smelted many thousands of tons of ore from several surrounding mines.

It is common to find lead and/or zinc contamination in soils, groundwater and surface water surrounding lead and zinc mines, mills and smelter sites. Contamination from mining and milling comes from large piles of mill waste on the surface and underground mine workings that penetrate the shallow aquifer. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead, zinc, and other metals that may have been deposited in surface soils both on and surrounding the sites.

### **D. Previous Investigation**

Four of the smelters had previous investigations sometime during the 1980’s (see Table 1). EPA archives show Preliminary Assessments (PA) conducted for American Shot and Lead Co. (1981), Collier White Lead and Oil Co. (1985), Missouri Lead and Oil Co. (1981), and Southern White Lead



## **Former St. Louis Lead and Zinc Smelters and Processing Sites Pre-CERCLIS SS and SR Narrative Summary Report**

and Color Co. (1984) however no sampling was performed. At that time, these four sites warranted no further action.

Some confusion regarding the name and location of the St. Louis Lead and Oil Works site resulted in previous documentation (i.e. the sampling plan and correspondence letters) listing this site as having had a Preliminary Assessment and a Site Inspection during the 1980s. However, this issue has been resolved and no such previous investigation has occurred at the St. Louis Lead and Oil Works site located at North 2<sup>nd</sup> Street and Cass Avenue. Please refer to the St. Louis Lead and Oil Works SS report in Section III Part F for more information.

The remaining eleven smelter sites have had no previous investigation.

### **E. Site Reconnaissance/Sampling**

In November, 2003, department personnel conducted windshield surveys of the fifteen smelter sites in order to identify potential targets. The locations of the former facilities were determined to the best ability and current property use was noted. The surrounding neighborhoods were surveyed for potential targets, such as residences and sensitive environments. Drainage areas for nearby waterways were noted. The results of the windshield surveys were used to determine which smelters warranted sampling and a sampling plan was developed based on this information.

Department personnel conducted several sampling events during October, November and December 2004, and January 2005. At the request of city officials, all samples were collected from city owned property in the site areas such as parks and vacant properties under city control, including residential yards and vacant lots. This distinction was made in an effort to collect enough information regarding the spread of lead/zinc contamination in the area of the smelters without unnecessarily disturbing the residential population.

Three types of composite samples were collected from the sampling locations: surface soil (SS, 0-2 inches), sub-surface soil (SB, 3-6 inches), and background (B) locations. A composite SS sample consisted of 10 aliquots from a sampling unit while a composite SB sample consisted of 5 aliquots.

At approximately 10% of the residential yards sampled, personnel collected a separate five aliquot sample within three feet of the residence and another separate five aliquot sample within five feet of the road. These samples were designated as the drip line and roadway samples, respectively. The purpose of these samples was to determine if soils contained lead from previous lead paint or leaded gasoline use. Background samples were collected from parks located greater than one mile from any smelter. The background samples were then averaged to represent background levels for all the smelter sites.

It is important to note that a significant amount of debris was encountered while sampling vacant lots. It appears that when vacant houses were demolished, a notable amount of debris was left behind and graded over lightly.

## **Former St. Louis Lead and Zinc Smelters and Processing Sites Pre-CERCLIS SS and SR Narrative Summary Report**

### **F. Data Analyses**

All samples collected during these SS and SR investigations were analyzed for lead and zinc using a Niton X-ray fluorescent analyzer (XRF) XL700 and/or XLi 700 multi-element analyzer. Approximately 10% of the total samples collected were submitted to the department's environmental laboratory and analyzed for total lead, zinc, and cadmium.

The XRF results are presented in Section I Part B of this report. Each sample was given a unique sample ID code that identified the smelter site, location number, location type, unit number, sample type, and sample type number. A second sampling number, the HWP (Hazardous Waste Program) number, was given to the samples to simplify the sample identity. Each sample was analyzed three times and the results were averaged to determine the XRF value.

The XRF average lead value was compared with the lab value using linear regression analysis. A graph illustrating this analysis is presented as Figure 2 in Section I Part B. A correlation coefficient ( $r^2$ ) of 0.9368 indicates a consistently well-correlated relationship between the XRF and laboratory lead result data. A QC summary of the XRF data is provided in Table 5 of Section I Part B, showing an evaluation of the precision and accuracy of analysis.

### **G. Analytical Results**

#### Surface Soil Samples

Surface soil samples were collected at nine of the smelter sites. Results were compared to the EPA Region 9 Preliminary Remedial Goals (PRG) for residential soils.

The background surface soil concentrations for the nine smelter sites ranged from 29.1 to 125.2 ppm lead with an average of 88.2 ppm (See Section 1 Part B Table 3). At seven of the nine sites, lead and zinc were detected at levels significantly above (greater than 3x) background concentrations. However, lead was detected above the EPA's PRG for lead of 400 ppm at only five of the nine sites. Zinc was not detected above the EPA's PRG for zinc of 23,000 ppm at any of the sites. The XRF results for cadmium were all non-detect. However, the XRF analyzer's sensitivity for this element is low. Results of laboratory cadmium analysis show that cadmium was detected at levels significantly above background concentrations in five surface soil samples from three sites. Cadmium was not detected in surface soils above the EPA's PRG for cadmium of 37 ppm at any of these sites. (See Section 1 Part B Table 4)

At only two of the nine sites (Glendale Zinc Works and M. Holtzman Metal Company), lead was detected above 400 ppm in a park. In both cases, the only elevated area was near a busy roadway. At the Federated Metals Division site, two vacant residential yards sampled contained lead above 400 ppm. Soil in one of these yards exceeded the EPA PRG for time critical removal action of 1,200 ppm lead. Of the twenty-three vacant lots sampled throughout all of the sites, four contained lead above 400 ppm (See Section 1 Part B Table 2).

## **Former St. Louis Lead and Zinc Smelters and Processing Sites Pre-CERCLIS SS and SR Narrative Summary Report**

### Subsurface Soil Samples

Subsurface soil samples were also collected at nine of the smelter sites. Results were compared to the EPA PRGs.

The background subsurface soil concentrations for the nine smelter sites ranged from 16.0 to 96.2 ppm lead with an average of 41 ppm (See Section 1 Part B Table 3) and ND to 68.7 ppm zinc with an average of 54.3 ppm. The XRF results for cadmium were all non-detect.

Lead was detected in subsurface soils at levels significantly above background at four of the nine smelter sites but was present above the EPA's PRG for lead of 400 ppm at only one of those sites (Federated Metals Division). Subsurface soils at one vacant residence contained lead at levels greater than 400 ppm. Zinc levels at one of the smelter sites were significantly above background, but below the EPA's PRG for zinc of 23,000 ppm. Cadmium results from the confirmatory lab analysis show that cadmium was detected at levels significantly above background concentrations in one sub-surface soil sample. Cadmium was not detected in sub-surface soils above the EPA's PRG for cadmium of 37 ppm at any of these sites. (See Section 1 Part B Table 4)

## **H. Conclusions and Recommendations**

SS and SR sampling documented a release of lead, cadmium, and zinc in the surface and subsurface soils of seven of the nine smelter sites sampled. However, only five of the smelter sites contained lead concentrations above the EPA PRG of 400 ppm lead. Only one sample contained lead greater than 1,200 ppm. All soil samples containing lead above 400 ppm were collected either near a roadway, within the drip line of a vacant residential house, or on a vacant lot containing demolition debris. Considering that the parks in this area are among the oldest areas untouched by demolition and development, it would be reasonable to assume that their soils would contain a representation of the historical dispersal of lead or zinc from the processing facility in the area. The parks sampled did not contain widespread lead or zinc contamination. Only two samples collected in the parks contained lead exceeding the EPA PRG for lead of 400 ppm and both samples were collected near busy roadways. Considering the extent at which lead based paint was used in the area and the relative age of the homes, it is likely that dust from the demolition of vacant homes could contain lead based paint and would remain in the yard after the home is torn down. In addition, upon plotting these points on a map, it appears there is no apparent relationship between the location of the smelters and the occurrence of elevated lead levels in the soil (See Site Location/Sampling Maps included in Section II of accompanying reports).

Zinc samples throughout the nine sites did not exceed the EPA PRG of 23,000 ppm zinc. Cadmium samples throughout the nine sites did not exceed the EPA PRG of 37 ppm cadmium.

Based on current site conditions and available information, no further action is warranted at this time for any of the St. Louis Smelter sites. Please refer to the individual site reports for more detailed information regarding specific smelters.

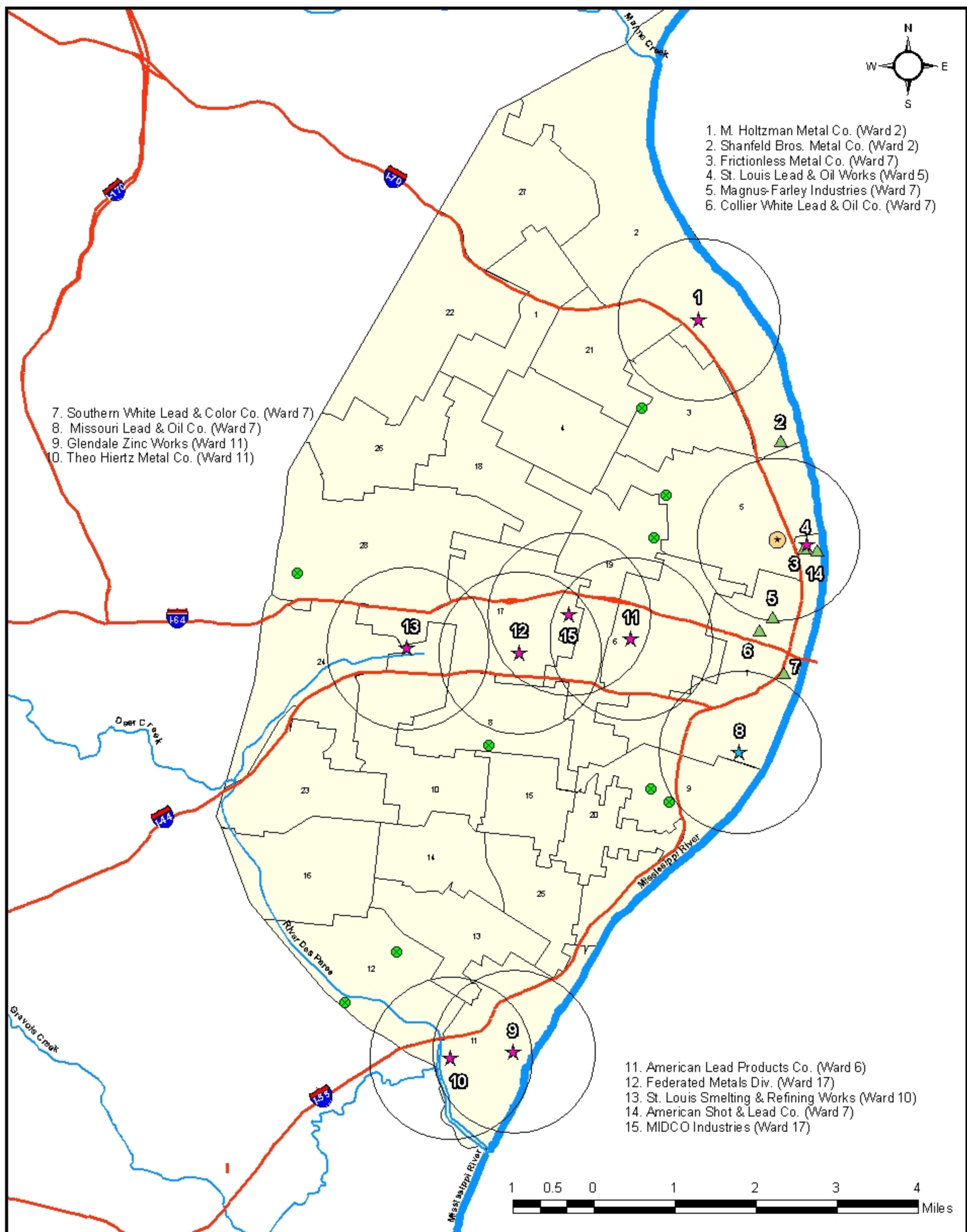
**Former St. Louis Lead and Zinc Smelters and Processing Sites  
Pre-CERCLIS SS and SR Narrative Summary Report**

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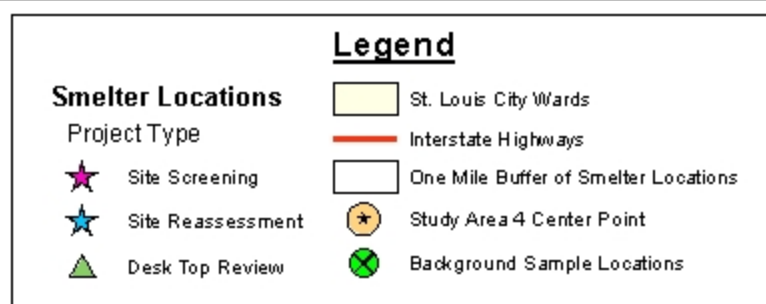
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Former Lead and Zinc Processing Sites in St. Louis City  
Site Reassessment/ Pre-CERCLIS Site Screening/ Desk Top Review

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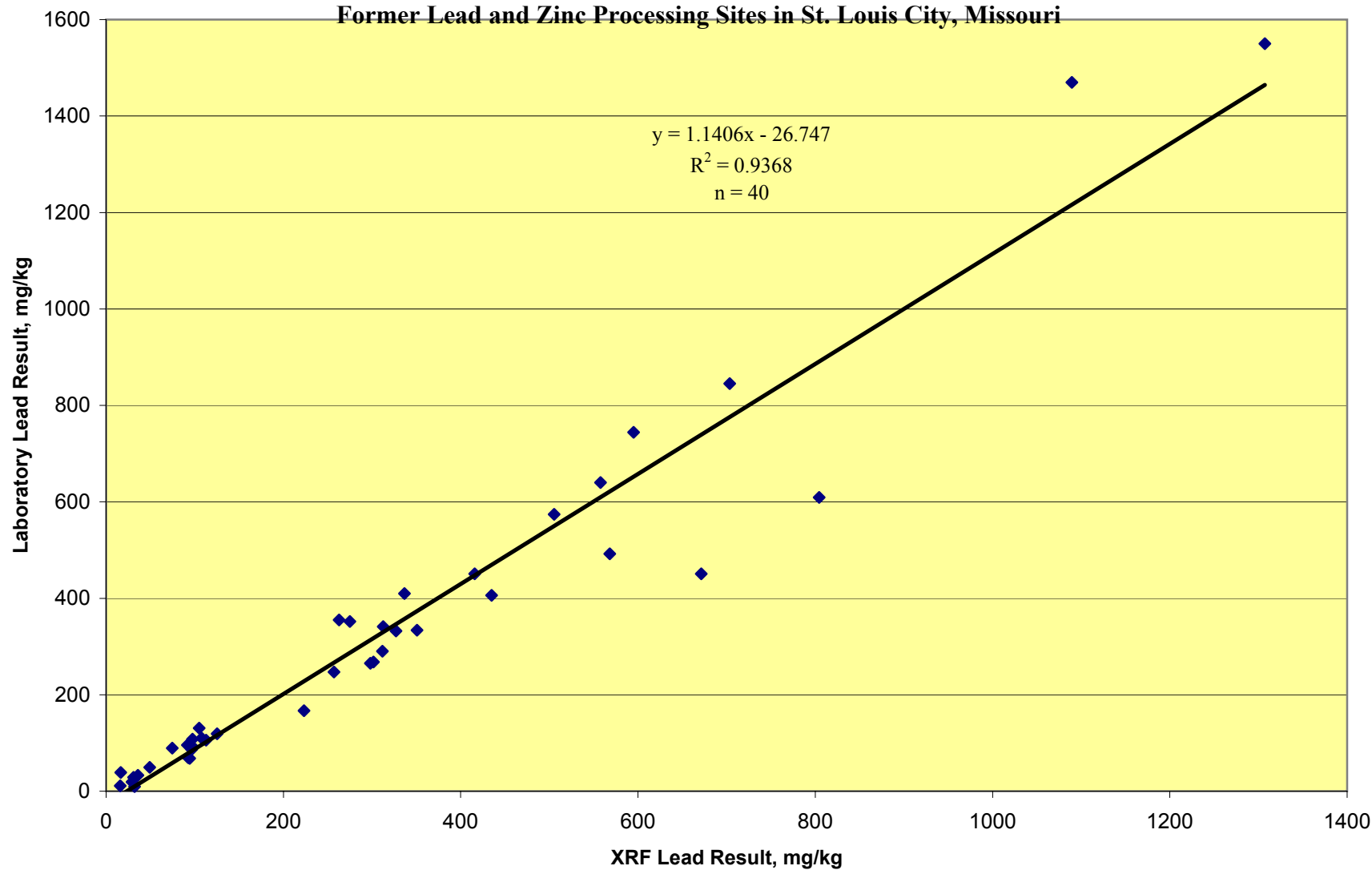
**Figure 1**  
**Former St. Louis Lead and Zinc Smelting and Processing Sites**  
**St. Louis City, MO**



Missouri Department of  
**Natural Resources**  
 Division of Environmental Quality  
 Hazardous Waste Program  
 Map Created by Dennis Shilling January 2006

Although all data was used in creating this map, it may have been compiled by the Missouri Department of Natural Resources, or was previously prepared or compiled, or made by the department, or is the property of the state and related materials. The use of this data shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

**Figure 2**  
**Correlation Between XRF and Laboratory Lead Results**  
**Former Lead and Zinc Processing Sites in St. Louis City, Missouri**





**Table 1**  
**Former Lead and Zinc Processing Sites in St. Louis City**

	Site Number on Map, Site Name, and Site Address	Previous Investigations	Zip Code	SPR% <sup>1</sup>	Process	Years of Operation	Commodity	Tons Handled	Job Code	Report Type <sup>2</sup>
11	<b>American Lead Products Co.</b> 2939 Chouteau Ave.		63103	7.1					NJ04AMLD	SS
14	<b>American Shot and Lead Co.</b> † § Dickson Street and Lewis Street	PA 1981 MOD980631170	63102	-						DTR
6	<b>Collier White Lead and Oil Co.</b> † § Clark Ave. and 9 <sup>th</sup> Street	PA 1985 MOD980631220	63102	-	White Pb	1837- 1875<	Lead	10,000	NJ04CWLO	DTR
12	<b>Federated Metals Division</b> 4041 Park Ave.		63110	20.7		1932-1937			NJ04FEDM	SS
3	<b>Frictionless Metal Co.</b> § 1458 Collins Street		63102	-		1923-1952			NJ04FRLS	DTR
9	<b>Glendale Zinc Works</b> (St. Louis FMGP 12)* East Nagel Street and Mississippi River		63111	12.1	Smelter	1869-1908	Zinc	11,000	NJ01GNZS	SS
1	<b>M. Holtzman Metal Co.</b> 5223 McKissock Ave.		63147	10.5					NJ04HOLT	SS
5	<b>Magnus-Farley Industries</b> § 722 Chestnut Street		63101	14					NJ04MAGF	DTR
15	<b>MIDCO Industries</b> 700 S. Spring Ave		63110	20.7	Processor	? - 2001	Lead/Tin alloy		NJ04MIDC	SS
8	<b>Missouri Lead and Oil Co.</b> † South Trudeau and Kosciusko	PA 1981 MOD980851406	63104	14.1	Smelter	1871-1875	Lead	2,000	NJ04MOLO	SR
2	<b>Shanfeld Bros. Metal Co.</b> § 56-70 Dock Street		63147	10.5		1946-1976			NJ04SHAN	DTR
7	<b>Southern White Lead and Color Co.</b> † § Lombard St. (between 2nd & Main St.)	PA 1984 MOD980631451	63102	-	White Pb	1865-1909	Lead	~1	NJ04SWLC	DTR
4	<b>St. Louis Lead and Oil Works</b> * North 2 <sup>nd</sup> Street and Cass Ave.		63106	11.9	Smelter White Pb	1866-1877	Lead	3,000	NJ04SLLO	SS
13	<b>St. Louis Smelting &amp; Refining Works</b> SE of Manchester Ave. & Macklind Ave.		63110	20.7	Smelter	1891-1949		~150,000	NJ04SSRW	SS
10	<b>Theo. Hiertz Metal Co.</b> 8011 Alaska Ave.		63111	12.1		1903-1968			NJ04THRZ	SS

\* Indicates sites that have had a Desk Top Review (DTR) previously completed by the Superfund Site Assessment Unit (SAU).

† Indicates sites determined for No Further Remedial Action Planned (NFRAP) and archived in CERCLIS. These sites were archived between 1981 and 1987.

§ Indicates sites that will be NFRAP'd due to no soil/targets available. A DTR was completed for these sites and the report is included in Section IV.

1. Screening Prevalence Rates (SPR%) by zip code from *Childhood Lead Poisoning Prevention Program Annual Report 2003, City of St. Louis, Department of Health* (blood lead rates). Reference 17

2. Report type: Site Screening (SS), Site Reassessment (SR), and Desk-Top Review (DTR)

TABLE 2: SUMMARY OF RESULTS FOR SAMPLES COLLECTED SEPTEMBER 28, 2004 THROUGH JANUARY 27, 2005 FORMER LEAD AND ZINC PROCESSING SITES, ST. LOUIS CITY, MISSOURI					
	Locations Sampled	Samples Collected	Locations with Lead >400 ppm**	Samples with Lead >400 ppm**	Notes
<b>Total:</b>	<b>62</b>	<b>198</b>	<b>8</b>	<b>10</b>	Nine smelter sites were sampled as part of this project. Four smelters sites had one or more locations with lead >400 ppm. For site specific results, please refer to the individual site tables located in this report.
<b>By Location Type:</b>					
Parks	28	134	2	2	Glendale Zinc Works and M. Holtzman Metal Co. account for the 2 park locations >400 ppm
Vacant Lots	23	42	4	5	St. Louis Lead & Oil Works & M. Holtzman Metal Co. account for vacant lot locations >400 ppm
Residences	2	4	2	3	Federated Metals Division accounts for the 2 vacant residences >400 ppm
Background	9	18	0	0	Background samples collected in parks located >1 mile from smelters.
<b>By Sample Type:</b>					
Surface Soil (0-2")	62	140	8	9	
Subsurface Soil (3-6")	21	21	1	1	
Quality Control	26	37	2	( 2 )	Replicate Samples noted in parenthesis. Not included in Total of Samples with Lead >400ppm

Roadway Sampling Results:

10 total roadway samples were collected.

3 of the Samples with Lead >400 ppm listed above were collected near a roadway.

Of these 3 roadway hits, 1 was near a vacant lot and 2 were near parks.

**\*\* EPA Region 9 Preliminary Remedial Goals for lead in residential (400 ppm) and industrial (750 ppm) scenarios October 1999**

**TABLE 3: XRF RESULTS FOR BACKGROUND SOIL SAMPLES COLLECTED  
SEPTEMBER, OCTOBER, AND NOVEMBER 2004 AND JANUARY 2005  
FORMER LEAD AND ZINC PROCESSING SITES, ST. LOUIS CITY, MISSOURI**

- All values listed in parts per million (mg/kg)
- NL denotes benchmark value not listed in reference source
- Sample results in bold are significantly<sup>1</sup> above background concentrations
- Circled sample results exceed EPA PRG Residential Use Value<sup>4</sup>

Location	XRF Sample	Sample ID	Sample Type	Pb Average
River Des Peres Park	HWP040036	GNZW09B01SB02	SB	16.4
	HWP040037	GNZW09B02SS10	SS	29.1
River Des Peres Park	HWP040038	GNZW10B03SS11	SS	105.0
Fairgrounds Park	HWP040061	HLOT04B01SS07	SS	74.6
	HWP040062	HLOT04B02SB03	SB	49.2
	HWP040063	HLOT04B03SS08	SS	97.3
Cherokee Park	HWP040080	MOLC05B01SB01	SB	96.2
	HWP040081	MOLC05B02SS01	SS	96.5
Benton Park	HWP040082	MOLC06B03SS02	SS	91.7
Gamble Park	HWP040121	SLLO12B01SS03	SS	31.1
	HWP040122	SLLO12B02SB02	SB	16.0
Yeatmen Square Park	HWP040123	SLLO13B03SS04	SS	107.9
Forest Park	HWP050003	SSRW01B03SS02	SS	92.6
	HWP050004	SSRW01B01SS01	SS	94.4
	HWP050005	SSRW01B02SB01	SB	32.2
Tower Grove Park	HWP050009	SSRW03B04SS06	SS	125.2
	HWP050010	SSRW03B05SB02	SB	36.0
	HWP050011	SSRW03B06SS07	SS	112.8
SCDM <sup>2</sup>				NL
CALM <sup>3</sup>				260
EPA PRG <sup>4</sup>				400

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use.

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

AVERAGE Pb CONCENTRATIONS FOR BACKGROUND SAMPLES			
	Background	Multiplier	Release
SS	88.2	x3	264.5
SB	41.0	x3	123.0

**TABLE 4: COMPARISON OF XRF AND LAB RESULTS FOR FORMER LEAD AND ZINC PROCESSING SITES  
SAMPLES COLLECTED OCTOBER, NOVEMBER, DECEMBER 2004 AND JANUARY 2005  
ST. LOUIS CITY, MISSOURI**

- All values listed in parts per million (mg/kg)
- Sample results in bold are significantly<sup>1</sup> above background concentrations
- NL denotes benchmark value not listed in reference source
- Circled sample results exceed EPA PRG

Site	Sample Location	Sample ID	Sample Type	Laboratory Number	XRF Data			LAB Data		
					Cd	Pb	Zn	Cd	Pb	Zn
American Lead Products	Lafayette Park, Roadway	AMLD06P05SS14	SS	501727	ND	<b>298.1</b>	215.5	1.770	<b>265.0</b>	219.0
Federated Metals Division	4126 Detonty	FEDM04R01SS08	SS	501234	ND	<b>301.5</b>	255.6	1.220	<b>268.0</b>	240.0
	4126 Detonty, Drip Line	FEDM04R01SS09	SS	501235	ND	<b>1307.3</b>	<b>834.4</b>	<b>3.510</b>	<b>1550.0</b>	<b>753.0</b>
	4154 Detonty	FEDM05V03SS12	SS	501236	ND	<b>311.7</b>	259.1	1.360	<b>290.0</b>	237.0
	4311 Gibson	FEDM09R01SB03	SB	501238	ND	<b>568.3</b>	103.2	<b>1.270</b>	<b>492.0</b>	161.0
	4311 Gibson	FEDM09R01SS17	SS	501237	ND	<b>703.5</b>	196.6	1.110	<b>845.0</b>	204.0
Glendale Zinc Works	South St Louis Square Park	GNZW01P04SS04	SS	449538	ND	262.9	<b>1025.9</b>	<b>2.000</b>	<b>355.0</b>	<b>2250.0</b>
	Carondelet Park, Roadway	GNZW03P04SS15	SS	449539	ND	<b>336.5</b>	<b>644.0</b>	1.920	<b>410.0</b>	<b>831.0</b>
	River Des Peres Park, Background	GNZW09B01SB02	SB	449540	ND	16.4	ND	0.413	38.8	76.8
	River Des Peres Park, Background	GNZW09B02SS10	SS	449541	ND	29.1	ND	0.220	19.1	57.9
	River Des Peres Park, Background	GNZW10B03SS11	SS	449542	ND	105.0	<b>289.2</b>	1.000	131.0	<b>360.0</b>
M. Holtzman Metal Co.	614 Withers	HLOT01V01SB01	SB	449531	ND	<b>350.7</b>	127.9	0.486	<b>334.0</b>	142.0
	O'Fallon Park, Roadway	HLOT03P04SS06	SS	449532	ND	<b>415.7</b>	160.3	0.962	<b>451.0</b>	194.0
	Fairgrounds Park, Background	HLOT04B01SS07	SS	449535	ND	74.6	ND	0.408	89.4	101.0
	Fairgrounds Park, Background	HLOT04B02SB03	SB	449536	ND	49.2	ND	0.465	49.5	86.5
	Fairgrounds Park, Background	HLOT04B03SS08	SS	449537	ND	97.3	ND	0.593	108.0	113.0
	4616 Von Phul St.	HLOT06V01SS12	SS	449533	ND	<b>434.8</b>	189.9	0.724	<b>406.0</b>	<b>496.0</b>
	1907-1911 Desoto, Roadway	HLOT09V02SS16	SS	449534	ND	<b>557.8</b>	224.4	1.500	<b>640.0</b>	296.0
Missouri Lead and Oil Co.	Lyons Park	MOLC01P02QCC	QC	452705	ND	223.2	223.0	1.780	167.0	221.0
	Lyons Park, Roadway	MOLC01P04SS06	SS	452706	ND	<b>274.9</b>	273.3	1.750	<b>352.0</b>	263.0
	Pontiac Square Park	MOLC04P02SS12	SS	452710	ND	257.2	217.9	1.420	247.0	248.0
	Cherokee Park, Background	MOLC05B01SB01	SB	452707	ND	96.2	ND	0.646	94.8	106.0
	Cherokee Park, Background	MOLC05B02SS01	SS	452708	ND	96.5	75.3	0.648	86.9	108.0
	Cherokee Park, Background	MOLC06B03SS02	SS	452709	ND	91.7	93.1	0.861	95.8	118.0
St. Louis Lead and Oil Works	Mullanphy Park	SLLO01P02QCC	QC	452687	ND	<b>327.0</b>	168.5	1.160	<b>332.0</b>	201.0
	Mullanphy Park	SLLO01P02SS02	SS	452686	ND	<b>312.4</b>	161.9	1.050	<b>341.0</b>	186.0
	1314 Benton	SLLO07V02SS24	SS	452688	ND	<b>1089.5</b>	<b>425.7</b>	<b>2.080</b>	<b>1470.0</b>	<b>444.0</b>
	1316 Monroe	SLLO11V01QCC	QC	452683	ND	<b>671.4</b>	<b>1054.6</b>	1.500	<b>451.0</b>	<b>361.0</b>
	1316 Monroe	SLLO11V01SS28	SS	452689	ND	<b>505.4</b>	<b>723.7</b>	<b>2.970</b>	<b>574.0</b>	<b>967.0</b>
	1316 Monroe	SLLO11V02QCS	QC	452690	ND	<b>594.9</b>	<b>420.9</b>	1.630	<b>744.0</b>	<b>391.0</b>
	1316 Monroe	SLLO11V02SS29	SS	452691	ND	<b>804.4</b>	<b>553.8</b>	<b>2.310</b>	<b>609.0</b>	<b>586.0</b>
	Gamble Park, Background	SLLO12B01SS03	SS	452685	ND	31.1	ND	0.326	28.6	75.6
	Gamble Park, Background	SLLO12B02SB02	SB	452684	ND	16.0	ND	0.025	11.4	47.6
	Yeatmen Square Park, Background	SLLO13B03SS04	SS	452692	ND	107.9	186.5	0.630	110.0	179.0
St. Louis Smelting & Refining Works	Forest Park, Background	SSRW01B01SS01	SS	501722	ND	94.4	ND	0.520	67.8	50.2
	Forest Park, Background	SSRW01B02SB01	SB	501723	ND	32.2	ND	0.106	9.4	26.5
	Forest Park, Background	SSRW01B03SS02	SS	501721	ND	92.6	ND	0.655	69.8	61.4
	Tower Grove Park, Background	SSRW03B04SS06	SS	501724	ND	125.2	138.1	0.967	119.0	93.8
	Tower Grove Park, Background	SSRW03B05SB02	SB	501725	ND	36.0	ND	0.380	32.8	62.8
	Tower Grove Park, Background	SSRW03B06SS07	SS	501726	ND	112.8	ND	1.110	106.0	95.0
Average Background SS					ND	88.2	156.4	0.662	86.0	117.7
Average Background SB					ND	41.0	ND	0.339	39.4	67.7
SCDM <sup>2</sup>					39	NL	23000	39	NL	23000
CALM <sup>3</sup>					110	260	38000	110	260	38000
EPA PRG <sup>4</sup>					37	400	23000	37	400	23000

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential and industrial use.

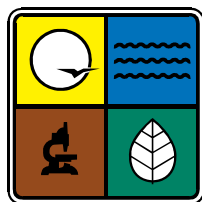
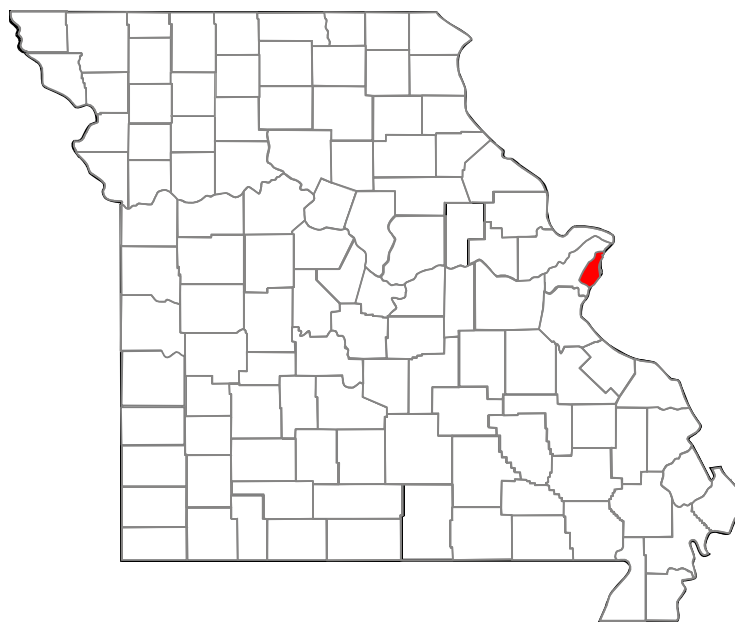
<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

Instrument Precision		Instrument		Sampling Precision		Sampling Precision		Representativeness		Representativeness		XRF Accuracy			
Sample	Lead, mg/kg	Sample	RSD	Sample	Lead, mg/kg	Sample	RPD	Sample	Lead, mg/kg	Sample	RPD	Date Analyzed	True	Measured	RPD
AMLD02V02	205.4	AMLD02V02	25.0	AMLD06P02QC03	181.2	AMLD06P02	47.5	AMLD06P02SS11	119.3	AMLD06P02	8.7	11/19/04	5532	5376.0	2.8
AMLD02V02	130.1	AMLD06P05	5.4	AMLD06P02QC03	182.5	AMLD07P01	28.5	AMLD06P02SS11	121.4	AMLD07P02	2.4	11/19/04	5532	5480.0	0.9
AMLD02V02	135.1	AMLD07P03	21.0	AMLD06P02QC03	197.4	FEDM05V01	0.1	AMLD06P02SS11	139.8	FEDM01P02	2.8	11/22/04	5532	5634.3	1.8
AMLD02V02	121.1	FEDM02V01	11.3	AMLD06P02QC03	119.3	FEDM05V01	9.2	AMLD06P02SS04	103.6	FEDM05V02	6.8	11/24/04	5532	5606.2	1.3
AMLD02V02	91.4	FEDM04R01	8.3	AMLD06P02QC03	121.4	FEDM07P01	19.8	AMLD06P02SS04	103.7	FEDM07P01	6.2	11/24/04	5532	5535.8	0.1
AMLD02V02	138.2	GNZW01P06	10.8	AMLD06P02SS11	139.8	GNZW01P03	4.8	AMLD06P02QC04	137.0	GNZW01P04	36.1	11/24/04	5532	5613.3	1.5
AMLD02V02	143.7	GNZW02P02	16.6	AMLD07P01QC05	62.6	GNZW03P01	10.1	AMLD07P02QC06	95.9	GNZW03P02	15.3	2/3/05	5532	5453.5	1.4
AMLD06P05	277.0	GNZW04P02	4.5	AMLD07P01QC05	58.4	GNZW03P01	9.8	AMLD07P02QC06	81.6	GNZW05P01	8.3	2/3/05	5532	5813.3	6.0
AMLD06P05	321.3	GNZW07V01	11.1	AMLD07P01QC05	81.5	GNZW07V01	13.5	AMLD07P02QC06	81.0	GNZW07V01	6.4	2/3/05	5532	5542.2	0.2
AMLD06P05	295.8	HLOT03P04	4.6	AMLD07P01SS15	80.8	HLOT03P03	10.0	AMLD07P02SS16	96.5	HLOT03P02	59.0	2/3/05	5532	5813.3	5.1
AMLD06P05	307.8	HLOT06V01	13.9	AMLD07P01SS15	82.0	HLOT07V01	216.3	AMLD07P02SS16	102.1	HLOT06V01	34.4	2/3/05	5532	5851.4	5.8
AMLD06P05	278.2	MOLC03P02	13.7	AMLD07P01SS15	120.1	MOLC01P02	9.1	AMLD07P02SS16	53.9	MOLC01P03	62.6	2/7/05	5532	5414.9	2.8
AMLD06P05	298.6	SLL004P05	26.5	FEDM01P01QC07	71.2	SLL004P01	30.6	FEDM01P02QS08	148.9	SLL004P01	3.9	2/7/05	5532	5630.7	1.8
AMLD06P05	308.2	SLL007V02	3.5	FEDM01P01QC07	100.5	SLL001P02	4.7	FEDM01P02QS08	124.7	SLL001P01	5.7	2/7/05	5532	5365.9	3.0
AMLD07P03	111.0	SLL011V01	24.1	FEDM01P01QC07	122.0	SLL004P01	22.5	FEDM01P02QS08	89.1	SLL004P02	8.7	2/8/05	5532	5926.4	7.1
AMLD07P03	81.3	SSRW04P01	8.0	FEDM01P01SS01	97.5	SLL011V01	12.0	FEDM01P02SS02	132.8	SLL006P02	32.9	2/8/05	5532	5700.9	3.1
AMLD07P03	90.6			FEDM01P01SS01	97.5			FEDM01P02SS02	114.1	SLL011V02	26.0	10/25/04	1162	1103.5	5.0
AMLD07P03	102.7	Average	13.0	FEDM01P01SS01	107.3	SSRW04P03	38.0	FEDM01P02SS02	106.1	SSRW04P05	4.6	11/19/04	1162	1151.5	0.5
AMLD07P03	81.3			FEDM05V01QC09	221.4			FEDM05V02QS10	168.0			11/19/04	1162	1093.7	5.9
AMLD07P03	136.3			FEDM05V01QC09	238.2			FEDM05V02QS10	160.5			11/22/04	1162	1117.0	3.9
FEDM02V01	172.1			FEDM05V01QC09	218.7			FEDM05V02QS10	334.8			11/22/04	1162	1115.2	4.0
FEDM02V01	155.9			FEDM05V01SS10	224.7			FEDM05V02SS11	252.6			11/22/04	1162	1191.8	2.6
FEDM02V01	194.9			FEDM05V01SS10	223.4			FEDM05V02SS11	245.6			11/24/04	1162	1213.0	4.4
FEDM02V01	189.5			FEDM05V01SS10	173.3	</									

# **SITE RE-ASSESSMENT REPORT**

Missouri Lead & Oil Co. Site  
St. Louis, Missouri  
MOD980851406

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program

**DATE:** August 31, 2006

**PREPARED BY:** Greg Bach  
Missouri Department of Natural Resources

**SITE:** Missouri Lead and Oil Co.  
St. Louis City

**C.A. NUMBER:**

**EPA ID NUMBER:** MOD980851406

## **1.0 INTRODUCTION**

The Missouri Department of Natural Resources, through a Cooperative Agreement with the U.S. Environmental Protection Agency (EPA), conducted a Site Reassessment (SR) at the Missouri Lead and Oil Company site in the City of St. Louis, Missouri.

It is common to find lead contamination in soils, groundwater, and surface water surrounding lead mines, mills and smelter sites. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead and other metals which may have been deposited in surface soils both on and surrounding the sites.

The purpose of the SR was to collect sufficient information concerning conditions at the site and surrounding residential properties to assess the threat posed to human health and the environment and to determine the need for additional action. The objectives of the SR were to determine lead concentrations in residential areas within one mile of the site and to compare the results to health-based benchmarks and risk-based action levels. The scope of the investigation included reviewing previous file information, obtaining permission from city officials to access city owned property for sample collection, collecting and analyzing surface and subsurface soil samples, and collecting additional non-sampling information. The SR was initiated in November 2003 as part of a larger investigation of 15 historic lead/zinc smelters or processing facilities that operated in the City of St. Louis (Reference 5). The investigation included a site visit in November 2003 and a sampling event on October 13 and October 14, 2004.

## **2.0 SITE DESCRIPTION**

### **2.1 Location**

The Missouri Lead and Oil Company site was located northwest of the intersection of South Trudeau Street and Kosciusko Street. Access to the site is restricted, therefore the closest geographic coordinates of the site are 38° 36' 08.78982" north latitude and 90° 12' 02.83860" west longitude as measured with a Trimble GeoExplorer XT Global Positioning System (GPS) unit. A site location/sampling map is presented as Figure 1 of Appendix A. Directions to the

## Missouri Lead and Oil Co. Site Reassessment

site are as follows: from the intersection of Interstate 70 and Interstate 55, travel south on Interstate 55 to Exit 208, 7<sup>th</sup> Street. Turn left on 7<sup>th</sup> Street and continue to Russell Avenue. Turn left on Russell and continue two blocks to 2<sup>nd</sup> Street. Turn right on 2<sup>nd</sup> Street and arrive at the site on the left approximately ½ block from Russell and 2<sup>nd</sup> Street intersection.

### 2.2 Site Description

Figure 1 in Appendix A is a site location/sampling map. Photos are included in Appendix B. The site is located in an industrial/residential area of St. Louis City near the intersection of South Trudeau and Kosciusko Street. No former smelter structures remain at the nearest approximation of the facility. An Ameren UE power station resides at this location and a security fence restricts site access. No waste source material was observed throughout the one-mile radius surrounding the facility.

### 2.3 Site History/Operational History

The Missouri Lead and Oil Company operated from 1871 to 1875 producing 2,000 tons of lead per year. The EPA completed a Preliminary Assessment (PA) in December 1981. Information regarding the details of the PA were not available for review at the time of this SR. The PA recommended that no further action was warranted. The site was referred to the Missouri Department of Natural Resources on November 13, 2003 by EPA Region 7 (Reference 5). This site was one of fifteen sites investigated as part of the Former St. Louis Lead and Zinc Smelting and Processes Sites study.

### 2.4 Waste Characteristics

No information is available on the quantity of waste released from the smelter. Historical documentation notes that the smelter operated from 1871 to 1875 producing 2,000 tons of lead a year (Reference 5).

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing.

Exposure to lead can happen from breathing contaminated air or dust, eating contaminated foods, or drinking contaminated water. Children can be exposed from eating lead-based paint chips or playing in contaminated soil. Lead can damage the nervous system, kidneys, and reproductive system (Reference 16).



Missouri Lead and Oil Co.  
Site Reassessment

## 2.5 Previous Investigations

### 2.5.1 1981 Preliminary Assessment

In December of 1981, EPA completed a PA of the Missouri Lead and Oil Company Site (Reference 8). The purpose of this investigation was to collect sufficient information concerning conditions at the site to assess the threat posed to human health and the environment, and to determine the need for additional investigation under CERCLA or other authority. No sampling was conducted during this investigation. No further action was recommended.

## 3.0 SUMMARY OF ADDITIONAL WORK

The scope of the SR investigation included sampling surface and subsurface soils in the approximate location of the smelter and on city owned property within one mile of the site. Four parks were selected for sampling. All samples were analyzed for lead, cadmium, and zinc using a Niton X-ray fluorescent analyzer (XRF) XL700 and/or XLi 700 multi-element analyzer. Approximately 10% of the total samples collected were submitted to the Department's environmental laboratory and analyzed for total lead, zinc, and cadmium for quality assurance/quality control purposes. Documentation of sampling activities is included in Appendix C, Sampling Documentation.

### 3.1 Sample Locations and Analytical Results (Appendix C)

DNR personnel collected composite soil samples from areas on-site and in city owned properties within one mile of the site. Three types of composite samples were collected from the sampling locations: surface soil (SS, 0-2 inches), sub-surface soil (SB, 3-6 inches) at 10% of the locations sampled, and background (B) locations. A composite SS sample consisted of 10 aliquots from a sampling unit while a composite SB sample consisted of 5 aliquots. At approximately 10% of the residential yards sampled, personnel collected a separate five aliquot sample within three feet of the residence and another separate five aliquot sample within five feet of the road. These samples were designated as the drip line and roadway samples, respectively. The purpose of these samples was to determine if soils contained lead from previous lead paint or leaded gasoline use. Background samples were collected from parks located greater than one mile from any smelter. The background samples were then averaged to represent background levels for all the smelter sites. It is important to note that a considerable amount of debris was encountered while sampling vacant lots throughout the city. It appears that when vacant houses are demolished, a notable amount of debris was left behind and graded over lightly.

Table 1 in Appendix B presents the sample collection information. Figure 1 in Appendix A shows the location of all samples collected. Sample results are compared against health based benchmarks, non-site specific cleanup levels, and site specific cleanup levels from four different sources: the EPA Superfund Chemical Data Matrix (SCDM), Cleanup Levels for Missouri (CALM), and the EPA

Missouri Lead and Oil Co.  
Site Reassessment

Region 9 Preliminary Remedial Goals (PRG) for lead, cadmium and zinc.

Table 2 in Appendix B provides a summary of the lead results for the soil samples. Twelve soil samples were collected from four sampling locations within one mile of the former facility location. Lead concentrations at these locations ranged from 58 parts per million (ppm or mg/kg) to 275 ppm. No samples contained lead greater than the EPA PRG for lead of 400 ppm. Zinc concentrations ranged from 50 ppm to 282 ppm, which is below the EPA PRG of 23,000 ppm for zinc. Cadmium was detected at levels significantly above background at five of the locations sampled. However, cadmium concentrations did not exceed the EPA PRG for cadmium of 37 ppm at any location.

### 3.2 Sampling Conclusions

SR sampling confirmed the presence of lead in one sample that exceeded three times the background concentration for lead. This sample was collected along a roadway at a park in a residential area. None of the samples collected for this site exceeded the EPA PRG for lead of 400 ppm.

## 4.0 SOIL EXPOSURE AND AIR PATHWAY CONSIDERATIONS

Exposure to contaminated soil is possible through direct contact with the soil. Also, there could be a possibility for exposure through inhalation of airborne contaminated soil particles. However, the contaminated soil is limited to one small area near a roadway in a park. This area has well-established vegetation.

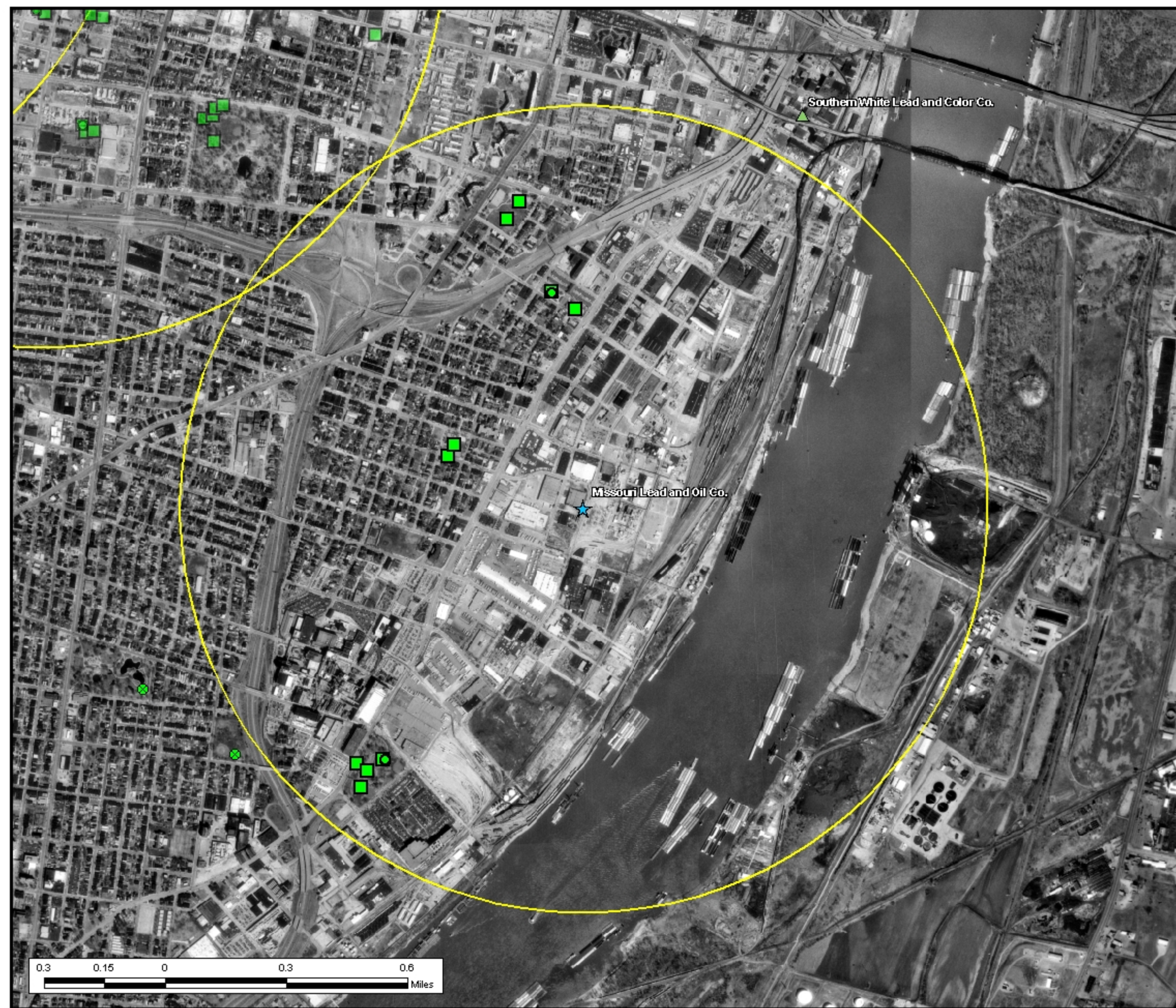
The air, groundwater and surface water pathways were not evaluated as part of the SR.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

SR sampling documented lead present above three times the background concentration in surface soils within one mile of the site. The concentration of lead did not exceed the EPA PRG screening level and there is no evidence of wide spread contamination due to smelting activities in the area. The lead contamination is localized to one small area along a roadway within a park. The lead contamination in the soil is likely attributable to former leaded gasoline use.

The Missouri Lead and Oil Company Site does not warrant further action at this time. No further action is recommended.





**Figure 1**

Missouri Lead & Oil Co.  
St. Louis City, MO

**Legend**

**Smelter Locations**

**Project Type**

- ★ Site Screening
- ★ Site Reassessment
- ▲ Desk Top Review

**Surface Soil Samples**

**Average Pb**

- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

**Subsurface Soil Samples**

**Average Pb**

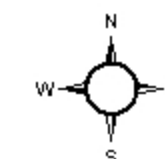
- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

**Soil Background Samples**

- Background Soil Samples

**Project Boundaries**

- One Mile Buffer of Smelter Locations



Missouri Department of  
Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program  
*Map Created by Dustin Hulsing February 2006*

Although all data used to create this map have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related material. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

0.3 0.15 0 0.3 0.6  
Miles



<b>TABLE 2. XRF RESULTS FOR SOIL SAMPLES COLLECTED OCTOBER 13 AND 14, 2004 MISSOURI LEAD AND OIL CO., ST. LOUIS, MISSOURI</b>				
<ul style="list-style-type: none"> <li>● All values listed in parts per million (mg/kg)</li> <li>● NL denotes benchmark value not listed in reference source</li> <li>● Sample results in bold are significantly<sup>1</sup> above background concentrations</li> </ul>				
<b>Location</b>	<b>XRF Sample</b>	<b>Sample ID</b>	<b>Sample Type*</b>	<b>Pb Average</b>
Lyons Park	HWP040064	MOLC01P01SB02	SB	76.3
	HWP040065	MOLC01P01SS03	SS	128.6
	HWP040067	MOLC01P02SS04	SS	204.5
	HWP040069	MOLC01P03SS05	SS	58.0
	HWP040070	MOLC01P04SS06	SS	<b>274.9</b>
Leisure Park	HWP040071	MOLC02P01SS07	SS	130.7
	HWP040072	MOLC02P02SS08	SS	69.4
Soullard Park	HWP040073	MOLC03P01SB03	SB	88.9
	HWP040074	MOLC03P01SS09	SS	101.9
	HWP040075	MOLC03P02SS10	SS	164.9
Pontiac Square Park	HWP040078	MOLC04P01SS11	SS	72.4
	HWP040079	MOLC04P02SS12	SS	257.2
<b>Average Background SS and SB</b>				88.2 and 41.0
<b>SCDM<sup>2</sup></b>				NL
<b>CALM<sup>3</sup></b>				260
<b>EPA PRG<sup>4</sup></b>				400

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use.

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

\* SB - subsurface soil sample collected from 3 -6 inches in depth.

SS - surface soil sample collected from 0-2 inches in depth.



**Photograph 1**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of AmerenUE Power Station,  
Missouri Lead & Oil Co site area,  
Trudeau Street. View looking northeast.



**Photograph 2**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of AmerenUE Power Station,  
Missouri Lead & Oil Co site area,  
Trudeau Street. View looking southeast.



**Photograph 3**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
October 13, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Lyons Park, Sample Location 1. View  
from Arsenal and Broadway St. looking  
south.





**Photograph 4**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
October 13, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Lyons Park, Sample Location 1. View  
looking southeast from Arsenal and  
Broadway St.



**Photograph 5**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
October 14, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Ray Leisure Park, Sample Location 2.  
View looking southwest from Park Ave.  
and Tucker Blvd.



**Photograph 6**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
October 14, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Ray Leisure Park, Sample Location 2.  
View looking east towards playground.





**Photograph 7**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
October 14, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Soulard Park, Sample Location 3. View  
looking northwest along Lafayette Ave.  
from Broadway.



**Photograph 8**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
October 14, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Soulard Park, Sample Location 3. View  
looking northwest towards 9th St..



**Photograph 9**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
October 14, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Pontiac Square Park, Sample Location 4.  
View looking east from 10th street.



**Photograph 10**

Missouri Lead & Oil Co. Site,  
St. Louis, Missouri. Photo taken on  
October 14, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Pontiac Square Park, Sample Location 4.  
View looking southeast from 10th street.



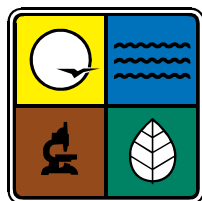
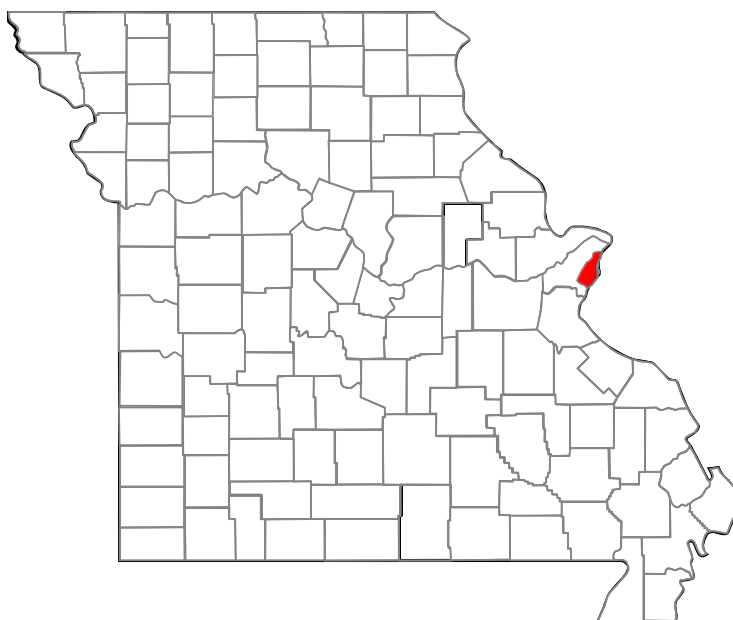
## **TABLE OF CONTENTS**

- I. Pre-CERCLIS Site Screening Initiation Form
- II. Pre-CERCLIS Screening Form
- III. Site Location Map/Sampling Map
- IV. Analytical Data Table
- V. Photographs

# **PRE-CERCLIS SITE SCREENING REPORT**

American Lead Products Co. Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## I. SITE NAME AND LOCATION

**Name:** American Lead Products Company

**Alias:**

**Address or other Location Identifier:** 2939 Chouteau

**City:** St. Louis

**County:** St. Louis

**State:** MO

**Zip:** 63103

### Directions to Site:

From the east, take Interstate 64 west to Exit 38B, Market St. Travel west (left) on Market St. approximately .25 mile to South Compton Avenue. Turn left (south) on South Compton Avenue and continue approximately .5 mile to Chouteau Avenue. Make a left (east) on Chouteau Avenue and arrive at site on the right in .25 mile.

From the west, take Interstate 64 east to Exit 36D, Chouteau Avenue. Continue on Chouteau Avenue for approximately 1 mile to arrive at the site on the right.

**Map Attached:**   X  

## II. SITE REFERRAL INFORMATION

**Referred By:** Citizen petition to the Environmental Protection Agency (EPA), Region 7

**Date of Referral:** 11/13/03

**Reason for Referral (if applicable):** Concern regarding lead contamination in surface soils near former smelters.

### Mailing Address:

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

## III. SITE INFORMATION

**Type of Facility:** Former lead or zinc smelter or processing facility

**Type of Ownership:**

**Owner Name:** Unknown

### Mailing Address:

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Operator Name (if different from owner):**

### Mailing Address:

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Current Site Status:**

**Years of Operation:**

### Operational History:

In November of 2003, a citizen petitioned the EPA to determine the potential for soil contamination resulting from operation of former lead smelters within the City of St. Louis (Reference 5). It is common to find lead contamination in soils, groundwater, and surface water surrounding lead mines, mills and smelter sites. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead and other metals which may have been deposited in surface soils both on and surrounding the sites.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

There is no operational history available at this time for the American Lead Products Company. The site was referred to the Missouri Department of Natural Resources on November 13, 2003 by EPA Region 7. The American Lead Products Company was cited in Appendix B: Babbitt Metal and Solders Smelters from William Eckel's study published in the American Public Health Journal (Reference 5). This site was one of fifteen sites investigated as part of the Former St. Louis Lead and Zinc Smelting and Processes Sites study.

### IV. CERCLA APPLICABILITY

[40 CFR 300.410(E)]

**1. Is there a release as defined by the NCP?**

Yes X No    

**Explain:**

Sampling documented a release of lead in the surface soils within one mile of the former facility. One surface soil sample contained levels of lead that was significantly above (more than three times) background concentrations established for the site. However, the contaminated soil is below the EPA PRG residential screening value of 400 ppm lead.

*(A RELEASE Is Defined As Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Or Disposing Into The Environment (Including The Abandonment Of Barrels, Containers, And Other Closed Receptacles Containing Any Hazardous Substances Or Pollutant Or Contaminant), But Excludes: Workplace Exposures; Engine Exhaust Emissions; Nuclear Releases Otherwise Regulated; And The Normal Application Of Fertilizer. For Purposes Of The NCP, Release Also Means Threat Of Release.)*

**2. Is the source a facility or vessel as defined by the NCP?**

Yes X No    

**Explain:** The contaminated soil (source) is likely attributable to former leaded gasoline use in the area.

*(A FACILITY Is Defined As Any Building, Structure, Installation, Equipment, Pipe Or Pipeline (Including Any Pipe Into A Sewer Or POTW), Well, Pit, Pond, Lagoon, Impoundment, Ditch, Landfill, Storage Container, Motor Vehicle, Rolling Stock, Or Aircraft Or Any Site Or Area, Where A Hazardous Substance Has Been Deposited, Stored, Disposed Of, Or Placed, Or Otherwise Come To Be Located; But Does Not Include Any Consumer Product In Consumer Use Or Any Vessel. A VESSEL Is Defined As Any Description Of Watercraft Or Other Artificial Contrivance Used, Or Capable Of Being Used, As A Means Of Transportation On Water Other Than A Public Vessel.)*

**3. Does the release involve either a hazardous substance, pollutant or contaminant as defined by the NCP?**

Yes X No    

**Explain:**

The hazardous substance released is lead.

*(A HAZARDOUS SUBSTANCE Means Any Substance, Element, Compound, Mixture, Solution, Hazardous Waste, Toxic Pollutant, Hazardous Air Pollutant, Or Imminently Hazardous Chemical Substance Or Mixture Designated Pursuant To The CWA, CERCLA, SDWA, CAA Or TSCA. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas. The Definition Of POLLUTANT Or CONTAMINANT Includes, But Is Not Limited To, Any Element, Substance, Compound, Or Mixture, Including Disease-Causing Agents, Which After Release Into The Environment And Upon Exposure, Ingestion, Inhalation, Or Assimilation Into Any Organism, Either Directly From The Environment Or Indirectly By Ingestion Through Food Chains, Will Or May Reasonably Be Anticipated To Cause Death, Disease, Behavioral Abnormalities, Cancer, Genetic Mutation, Physiological Malfunctions Or Physical Deformations, In Such Organisms Or Their Offspring. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas.)*

**4. Is the release subject to the limitations on response?**

Yes     No X

**Explain:**

*(The LIMITATIONS ON RESPONSE Provisions Of The NCP (40 CFR 300.400(B)) States That Removals Shall Not Be Undertaken In Response To A Release: Of A Naturally Occurring Substance In Its Unaltered Or Natural Form; From Products That Are A Part Of The Structure Of, And Result In Exposure Within, Residential Buildings Or Business Or Community Structures; Or Into Public Or Private Drinking Water Supplies Due To Deterioration Of The System Through Ordinary Use.)*

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

5. Is there a potential for other federal or state response mechanisms? Yes ☐ No ☒

If so, identify the appropriate program:

☐ RCRA

☐ NRC

☐ FIFRA

☐ UST

☐ State VCP

☐ Other State Deferral

☐ Other Federal ( )

Explain:

## V. PATHWAY EVALUATION

### 1. Source and Waste Characteristics

**Source Types and Locations:** The source is not known, but may be leaded gasoline.

**Size of Sources:** The source size is limited to an area near a major roadway.

**Waste Types and Quantities:** The quantity of contaminated soil is unknown at this time.

**Hazardous Substances Present:** Lead

### 2. Groundwater Use and Characteristics Within 4 Miles

**General Hydrology:**  
Unknown

**Are Karst Features Present on or Near Site:** Unknown

**Depth to Shallowest Groundwater:** Unknown

**Groundwater Wells Within 4 Miles:** Unknown

**Private Wells:**

**Municipal Wells:**

**Industrial/Agricultural Wells:**

**Locations and Populations Served (if known):**

**Distance to Nearest Drinking Water Well:** Unknown

### 3. Surface Water Use and Characteristics

**Is Site in a Flood Plain:** Unknown **If Yes,** ☐ 10 year ☐ 100 year ☐ 500 year

**Distance to Nearest Surface Water:** Unknown  
(If within 2 miles, fill out surface water pathway)

**List Surface Water Bodies Within 15 Downstream Miles:**

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**Drinking Water Intakes Within 15 Downstream Miles:** Unknown

**Locations and Populations Served (if known):**

**Fisheries, Sensitive Environments or Wetlands Within 15 Downstream Miles:** Unknown

**Significant Features (if known or applicable):**

## 4. Soil and Air Exposure Characteristics

**Number of People Living Within 200 Feet of Site:** Unknown, heavy urban area.

**Number of Schools or Daycares Within 200 Feet of Site:** Unknown

**General Population Within 4 Miles (rural, small city, heavy urban area, etc.):** Heavy urban

**Number of Workers On-Site:**

**Any terrestrial sensitive environments and/or wetlands present on-site?** Yes \_\_\_\_ No \_\_\_\_

**Is site access restricted?** Yes \_\_\_\_ No X

## VI. SUPERFUND SITE SCREENING CRITERIA [40 CFR 300.410(e)]

**1. Does the quantity or concentration of hazardous substances warrant response?** Yes \_\_\_\_ No X

### Explain:

A total of twenty-two soil samples were collected from seven sampling locations within a one mile radius of this site.

Lead concentrations for sampling locations within one mile of the site ranged from 42 ppm to 298 ppm. No samples exceeded the EPA PRG of 400 ppm lead. Of the seven locations sampled, one location near a busy roadway contained lead in the surface soils above three times the background concentration established for this site.

**2. Has a PRP been identified?** Yes \_\_\_\_ No X

### Explain:

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

3. Is there an actual or potential exposure to hazardous substances, pollutants or contaminants?

Yes X No    

**Explain:**

Exposure to contaminated soil is possible through contact with the soil. However, the contaminated soil is below the EPA PRG residential screening value of 400 ppm lead. This soil is also covered with well-established vegetation and is limited to one small area near a busy roadway.

4. Is there an actual or a potential threat for contamination of drinking water supplies?

Yes     No X

**Explain:**

At this time, a threat to drinking water supplies is not expected. Groundwater contamination is unlikely because the contamination has been deposited into the surface soils and is not believed to be at depth.

5. Are there hazardous substances, pollutants or contaminants in drums, barrels or bulk storage containers?

Yes     No X

**Explain:**

No drums, barrels, or bulk storage containers were noted in the residential areas sampled.

6. Are there high levels of hazardous substances, pollutants or contaminants in surface soils?

Yes     No X

**Explain:**

Soil on-site contained levels of lead below the EPA PRG screening level of 400ppm lead for residential settings.

*("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)*

7. Are there conditions on site which may be susceptible to impact from adverse weather conditions?

Yes     No X

**Explain:** The vegetation is well established in the location with contaminated soils. The migration of lead within the surface soils during adverse weather conditions is unlikely.

8. Is there a threat of fire or explosion?

Yes     No X

**Explain:** Lead contaminated soil is not flammable or explosive.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

9. Are there other situations or factors which warrant further Superfund response?

Yes \_\_\_\_ No X

Explain:



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

### SITE SCREENING FINDINGS

Answer the following questions as support for the site recommendation.

Yes	No	Condition or Factor	Yes	No	Condition or Factor
X		Is there a release or threat of release?	X		Is there a direct soil exposure pathway threat?
X		Is the source a facility or vessel?		X	Are there high levels of contaminants in surface soils?
X		Does the release involve a hazardous substance, pollutant, or contaminant?		X	Is there an air pathway threat?
	X	Is the site subject to response limitations?		X	Is there a threat of fire or explosion?
	X	Does the quantity or concentration of hazardous substances warrant response?		X	Are there drums, barrels, or bulk storage containers present?
X		Are there actual or potential exposure threats?		X	Is the site susceptible to adverse weather conditions?
	X	Is there an actual or a potential threat for contamination of drinking water supplies?		X	Is there a willing/capable PRP response?
	X	Is there a surface water pathway threat?		X	Can the site be referred to another program?

### SITE SCREENING RECOMMENDATIONS

X	<b>Superfund CERCLIS Entry Not Warranted No Further Superfund Response Action Required</b>
	<b>Superfund CERCLIS Entry Warranted Not Recommended For CERCLIS Entry At This Time – Other Response Action Planned</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Additional Integrated Assessment Recommended</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Removal Action Recommended</b> <i>(Complete A Removal Evaluation Form)</i> ___ Emergency              ___ Time-Critical              ___ Non-Time-Critical

#### Comments:

The American Lead Products Company Site is not recommended for entry into CERCLIS at this time. Sampling documented that lead was present below the EPA PRG residential screening levels in surface soils within one mile of the site. Although the concentrations of lead in one sample exceed three times the background concentration, this sample was located in a small area near a roadway. There is no evidence of wide spread contamination due to smelting activities in the area. The source of this contamination is likely attributable to former leaded gasoline use.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

### VIII. ADDITIONAL INFORMATION OR COMMENTS

**PREPARED BY:**

NAME: Greg Bach SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**REVIEWED BY:**

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

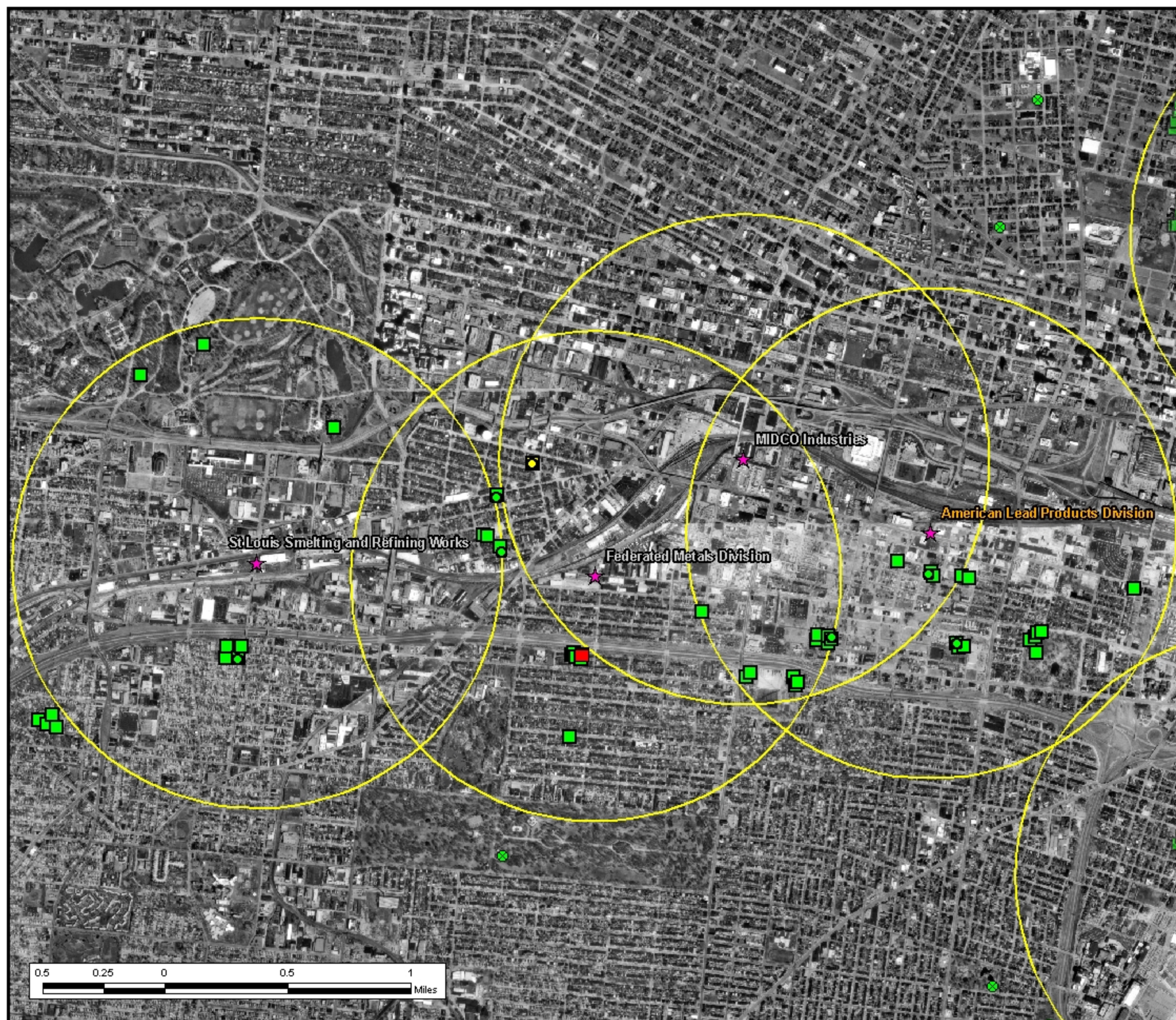
**APPROVED BY:**

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_



**Figure 1**

American Lead Products Co., Federated Metals Division,  
MIDCO Industries and St. Louis Smelting & Refining Works  
St. Louis City, MO



**Legend**

**Smelter Locations**

**Project Type**

- ★ Site Screening
- ★ Site Reassessment
- ▲ Desk Top Review

**Surface Soil Samples**

**Average Pb**

- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

**Subsurface Soil Samples**

**Average Pb**

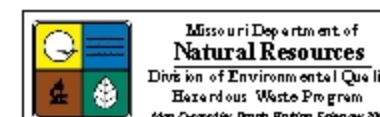
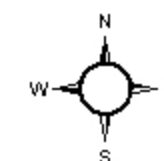
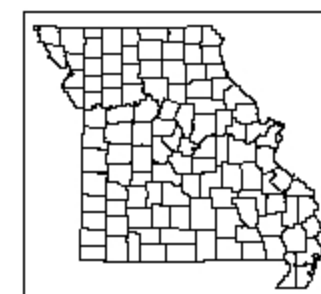
- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

**Soil Background Samples**

- Background Soil Samples

**Project Boundaries**

- One Mile Buffer of Smelter Locations



Although all data was used in this map, it may have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The use of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.



<b>TABLE 2. XRF RESULTS FOR SOIL SAMPLES COLLECTED JANUARY 25 AND 26, 2005 AMERICAN LEAD PRODUCTS CO., ST. LOUIS, MISSOURI</b>				
● All values listed in parts per million (mg/kg) ● NL denotes benchmark value not listed in reference source ● Sample results in bold are significantly <sup>1</sup> above background concentrations				
Location	XRF Sample	Sample ID	Sample Type*	Pb Average
1746 Chouteau	HWP050024	AMLD01V01SS01	SS	139.2
2706 Hickory	HWP050025	AMLD02V01SS02	SS	163.9
	HWP050026	AMLD02V02SS03	SS	137.9
Buder Park	HWP050027	AMLD03P01SS04	SS	68.2
	HWP050029	AMLD03P02SB01	SB	110.4
	HWP050028	AMLD03P02SS05	SS	105.7
3008 Hickory	HWP050030	AMLD04V01SS06	SS	90.8
Eads Park	HWP050032	AMLD05P01SB02	SB	56.5
	HWP050031	AMLD05P01SS07	SS	42.6
	HWP050033	AMLD05P02SS08	SS	49.6
	HWP050034	AMLD05P03SS09	SS	41.5
Lafayette Park	HWP050035	AMLD06P01SS10	SS	169.4
	HWP050036	AMLD06P02SS11	SS	126.8
	HWP050037	AMLD06P03SS12	SS	158.2
	HWP050038	AMLD06P04SS13	SS	126.8
	HWP050039	AMLD06P05SS14	SS	<b>298.1</b>
Terry Park	HWP050042	AMLD07P01SS15	SS	94.4
	HWP050043	AMLD07P02SS16	SS	84.2
	HWP050045	AMLD07P03SB03	SB	100.5
	HWP050044	AMLD07P03SS17	SS	104.7
	HWP050046	AMLD07P04SS18	SS	166.7
	HWP050047	AMLD07P05SS19	SS	101.8
<b>Average Background SS and SB</b>			88.2 and 41.0	
<b>SCDM<sup>2</sup></b>			NL	
<b>CALM<sup>3</sup></b>			260	
<b>EPA PRG<sup>4</sup></b>			400	

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use.

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

\* SB - subsurface soil sample collected from 3-6 inches in depth.

SS - surface soil sample collected from 0-2 inches in depth.



**Photograph 1**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of American Lead Products Co.  
area, Ewing & Choateau Streets. View  
looking southeast.



**Photograph 2**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of neighboring company building  
located in American Lead Products Co.  
area, Ewing, Montrose & Choateau  
Streets. View looking south



**Photograph 3**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of neighboring property located in  
American Lead Products Co. area, Ewing,  
Montrose & Choateau Streets. View  
looking southwest.



**Photograph 4**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund.

1746 Choutau, view of sampling location 1.  
View is facing north towards Choteau Road.



**Photograph 5**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund.

2706 Hickory, view of sampling location 2.  
View is facing south from Hickory Road.



**Photograph 6**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Buder Park, view of sampling locations 3.  
View is facing northeast from Rutger Street.





**Photograph 7**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

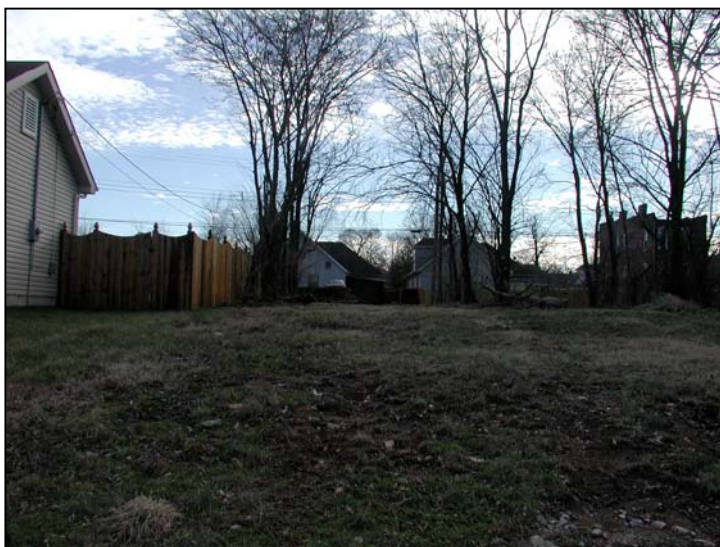
Buder Park, view of sampling location 3.  
View is facing east.



**Photograph 8**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Buder Park, view of sampling location 3.  
View is facing east.



**Photograph 9**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

3008 Hickory Street, view of sampling  
location 4. View is facing south from  
Hickory Street.



**Photograph 10**  
American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Eads Park, view of sampling location 5.  
View is facing south from Vincent Avenue.



**Photograph 11**  
American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Eads Park, view of sampling location 5.  
View is facing southeast from park entrance.



**Photograph 12**  
American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Eads Park, view of sampling location 5.  
View is facing southwest from park entrance.





**Photograph 13**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Lafayette Park, view of sampling location 6.  
View is facing southeast from Park Avenue.



**Photograph 14**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Lafayette Park, view of sampling location 6.  
View is facing south from Park Avenue.



**Photograph 15**

American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Lafayette Park, view of sampling location 6.  
View is facing east from Park Avenue.



**Photograph 16**  
American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Terry Park, view of sampling location 7.  
View is facing northwest from Eads  
Avenue.



**Photograph 24**  
American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Terry Park, view of sampling location 7.  
View is facing west from Henrietta Street.



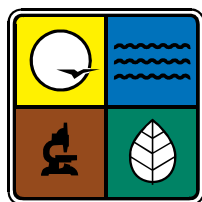
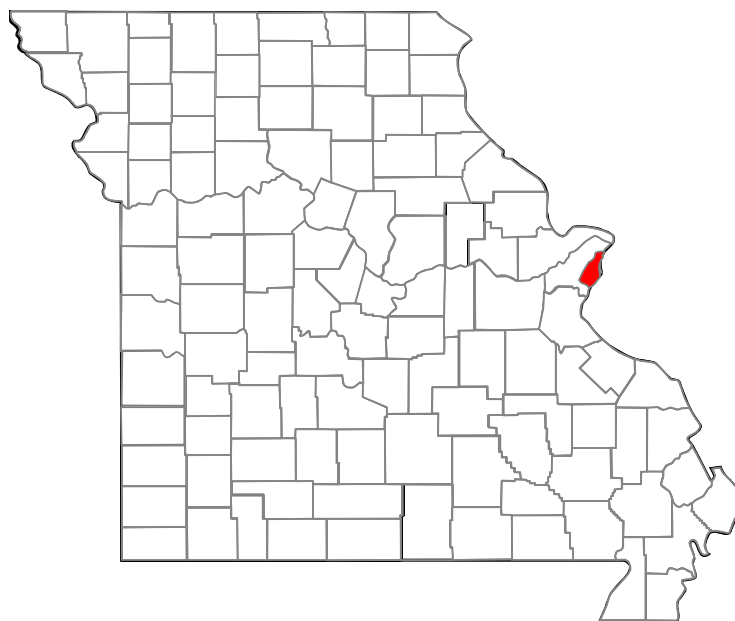
**Photograph 27**  
American Lead Products Co. Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Terry Park, view of sampling location 7.  
View is facing west from Henrietta Street.

# **PRE-CERCLIS SITE SCREENING REPORT**

Federated Metals Division Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## I. SITE NAME AND LOCATION

**Name:** Federated Metals Division

**Alias:** Possibly F.E.D. Corporation

**Address or other Location Identifier:** 4041 Park Avenue

**City:** St. Louis

**County:** St. Louis

**State:** MO

**Zip:** 63110

**Directions to Site:** From the intersection of Interstate 170 and Interstate 64, travel east on Interstate 64 approximately 5.5 miles to exit 36d, Chouteau Avenue. Stay left on Chouteau Avenue and continue approximately 0.5 mile to South 39<sup>th</sup> Street. Turn right onto South 39<sup>th</sup> Street and travel approximately 0.5 mile to Park Avenue. Turn right onto Park Avenue and travel approximately 0.1 mile.

**Map Attached:**  X

## II. SITE REFERRAL INFORMATION

**Referred By:** Citizen petition to the Environmental Protection Agency (EPA), Region 7

**Date of Referral:** 11/13/03

**Reason for Referral (if applicable):** Concern regarding lead contamination in surface soils near former smelters.

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

## III. SITE INFORMATION

**Type of Facility:** Former lead or zinc smelter or processing facility

**Type of Ownership:**

**Owner Name:** Unknown

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Operator Name (if different from owner):**

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Current Site Status:**

**Years of Operation:**

### Operational History:

In November of 2003, a citizen petitioned the EPA to determine the potential for soil contamination resulting from operation of former lead smelters within the City of St. Louis (Reference 5). It is common to find lead contamination in soils, groundwater, and surface water surrounding lead mines, mills and smelter sites. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead and other metals which may have been deposited in surface soils both on and surrounding the sites.

An inactive Delaware corporation known as F.E.D. Corporation was formerly known as Federated Metals. If Federated Metals Division is the same corporation as F.E.D. Corporation, then the smelter operated from 1932 to 1937. The site was referred to the Missouri Department of Natural Resources on November 13, 2003 by EPA



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

Region 7. The Federated Metals Division was cited in Appendix B: Babbitt Metal and Solders Smelters from William Eckel's study published in the American Public Health Journal (Reference 5). This site was one of fifteen sites investigated as part of the Former St. Louis Lead and Zinc Smelting and Processes Sites study.

## IV. CERCLA APPLICABILITY [40 CFR 300.410(E)]

1. Is there a release as defined by the NCP? Yes X No     

**Explain:**

Sampling documented a release of lead in the surface soils within one mile of the former facility. Surface soils in three areas contained levels of lead that were significantly above (more than three times) background concentrations established for the site.

*(A RELEASE Is Defined As Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Or Disposing Into The Environment (Including The Abandonment Of Barrels, Containers, And Other Closed Receptacles Containing Any Hazardous Substances Or Pollutant Or Contaminant), But Excludes: Workplace Exposures; Engine Exhaust Emissions; Nuclear Releases Otherwise Regulated; And The Normal Application Of Fertilizer. For Purposes Of The NCP, Release Also Means Threat Of Release.)*

2. Is the source a facility or vessel as defined by the NCP? Yes X No     

**Explain:** The contaminated soil (source) is likely attributable to former lead-based paint use in the area.

*(A FACILITY Is Defined As Any Building, Structure, Installation, Equipment, Pipe Or Pipeline (Including Any Pipe Into A Sewer Or POTW), Well, Pit, Pond, Lagoon, Impoundment, Ditch, Landfill, Storage Container, Motor Vehicle, Rolling Stock, Or Aircraft Or Any Site Or Area, Where A Hazardous Substance Has Been Deposited, Stored, Disposed Of, Or Placed, Or Otherwise Come To Be Located; But Does Not Include Any Consumer Product In Consumer Use Or Any Vessel. A VESSEL Is Defined As Any Description Of Watercraft Or Other Artificial Contrivance Used, Or Capable Of Being Used, As A Means Of Transportation On Water Other Than A Public Vessel.)*

3. Does the release involve either a hazardous substance, pollutant or contaminant as defined by the NCP? Yes X No     

**Explain:**

The hazardous substance released is lead.

*(A HAZARDOUS SUBSTANCE Means Any Substance, Element, Compound, Mixture, Solution, Hazardous Waste, Toxic Pollutant, Hazardous Air Pollutant, Or Imminently Hazardous Chemical Substance Or Mixture Designated Pursuant To The CWA, CERCLA, SDWA, CAA Or TSCA. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas. The Definition Of POLLUTANT Or CONTAMINANT Includes, But Is Not Limited To, Any Element, Substance, Compound, Or Mixture, Including Disease-Causing Agents, Which After Release Into The Environment And Upon Exposure, Ingestion, Inhalation, Or Assimilation Into Any Organism, Either Directly From The Environment Or Indirectly By Ingestion Through Food Chains, Will Or May Reasonably Be Anticipated To Cause Death, Disease, Behavioral Abnormalities, Cancer, Genetic Mutation, Physiological Malfunctions Or Physical Deformations, In Such Organisms Or Their Offspring. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas.)*

4. Is the release subject to the limitations on response? Yes      No X

**Explain:**

*(The LIMITATIONS ON RESPONSE Provisions Of The NCP (40 CFR 300.400(B) States That Removals Shall Not Be Undertaken In Response To A Release: Of A Naturally Occurring Substance In Its Unaltered Or Natural Form; From Products That Are A Part Of The Structure Of, And Result In Exposure Within, Residential Buildings Or Business Or Community Structures; Or Into Public Or Private Drinking Water Supplies Due To Deterioration Of The System Through Ordinary Use.)*

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

5. Is there a potential for other federal or state response mechanisms? Yes ☐ No ☒

If so, identify the appropriate program:

☐ RCRA                      ☐ NRC                      ☐ FIFRA                      ☐ UST  
☐ State VCP                      ☐ Other State Deferral                      ☐ Other Federal (\_\_\_\_)

Explain:

## V. PATHWAY EVALUATION

### 1. Source and Waste Characteristics

**Source Types and Locations:** The contaminated soil (source) is likely attributable to lead-based paint used in residential buildings.

**Size of Sources:** The source sizes are limited to areas near vacant houses which have lead based paint deterioration.

**Waste Types and Quantities:** The quantity of contaminated soil is unknown at this time.

**Hazardous Substances Present:** Lead

### 2. Groundwater Use and Characteristics Within 4 Miles

**General Hydrology:**  
Unknown

**Are Karst Features Present on or Near Site:** Unknown

**Depth to Shallowest Groundwater:** Unknown

**Groundwater Wells Within 4 Miles:** Unknown

Private Wells:

Municipal Wells:

Industrial/Agricultural Wells:

**Locations and Populations Served (if known):**

**Distance to Nearest Drinking Water Well:** Unknown

### 3. Surface Water Use and Characteristics

**Is Site in a Flood Plain:** Unknown      **If Yes,**    ☐ 10 year                      ☐ 100 year                      ☐ 500 year

**Distance to Nearest Surface Water:** Unknown  
(If within 2 miles, fill out surface water pathway)

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**List Surface Water Bodies Within 15 Downstream Miles:**

**Drinking Water Intakes Within 15 Downstream Miles:** Unknown

**Locations and Populations Served (if known):**

**Fisheries, Sensitive Environments or Wetlands Within 15 Downstream Miles:** Unknown

**Significant Features (if known or applicable):**

## 4. Soil and Air Exposure Characteristics

**Number of People Living Within 200 Feet of Site:** Unknown, heavy urban area.

**Number of Schools or Daycares Within 200 Feet of Site:** Unknown

**General Population Within 4 Miles (rural, small city, heavy urban area, etc...):** Heavy urban

**Number of Workers On-Site:**

**Any terrestrial sensitive environments and/or wetlands present on-site?** Yes \_\_\_\_ No \_\_\_\_

**Is site access restricted?** Yes \_\_\_\_ No X

## VI. SUPERFUND SITE SCREENING CRITERIA [40 CFR 300.410(e)]

**1. Does the quantity or concentration of hazardous substances warrant response?** Yes \_\_\_\_ No X

### Explain:

A total of twenty soil samples were collected from nine sampling locations within one mile of the former facility. Lead concentrations for sampling locations within one mile of the site ranged from 82 ppm to 1307 ppm. Of the nine locations sampled, two locations contained lead in the soils above the EPA PRG of 400 ppm lead. One vacant residential location contained lead in the surface soil (0-2") at 704 ppm in addition to lead in the sub-surface soil (3-6") at 568 ppm. The second vacant residential location contained lead in the surface soils within the drip line (within 3 feet of the structure) at 1307 ppm.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

2. Has a PRP been identified?

Yes \_\_\_\_ No X

Explain:

3. Is there an actual or potential exposure to hazardous substances, pollutants or contaminants?

Yes X No \_\_\_\_

Explain:

Exposure to contaminated soil is possible through contact with the soil. However, the contaminated soil is limited to two small areas near vacant residential buildings. All of these areas have well-established vegetation.

4. Is there an actual or a potential threat for contamination of drinking water supplies?

Yes \_\_\_\_ No X

Explain:

At this time, a threat to drinking water supplies is not expected. Groundwater contamination is unlikely because the contamination has been deposited into the surface and shallow sub-surface soils and is not believed to be at extended depth.

5. Are there hazardous substances, pollutants or contaminants in drums, barrels or bulk storage containers?

Yes \_\_\_\_ No X

Explain:

No drums, barrels, or bulk storage containers were noted in the residential areas sampled.

6. Are there high levels of hazardous substances, pollutants or contaminants in surface soils?

Yes \_\_\_\_ No X

Explain:

Soil on-site contained levels of lead greater than the EPA PRG screening level of 400ppm lead and the time-critical removal action level of 1200ppm lead for residential settings. Additionally, this contaminated soil is localized to two small areas near vacant residential houses.

*("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)*

7. Are there conditions on site which may be susceptible to impact from adverse weather conditions?

Yes \_\_\_\_ No X

Explain: The vegetation is well established in both locations with contaminated soils. The migration of lead within the surface soils during adverse weather conditions is unlikely.



## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

8. Is there a threat of fire or explosion?

Yes \_\_\_\_ No X

**Explain:** Lead contaminated soil is not flammable or explosive.

9. Are there other situations or factors which warrant further Superfund response?

Yes \_\_\_\_ No X

**Explain:**

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

### SITE SCREENING FINDINGS

Answer the following questions as support for the site recommendation.

Yes	No	Condition or Factor	Yes	No	Condition or Factor
X		Is there a release or threat of release?	X		Is there a direct soil exposure pathway threat?
X		Is the source a facility or vessel?		X	Are there high levels of contaminants in surface soils?
X		Does the release involve a hazardous substance, pollutant, or contaminant?		X	Is there an air pathway threat?
	X	Is the site subject to response limitations?		X	Is there a threat of fire or explosion?
	X	Does the quantity or concentration of hazardous substances warrant response?		X	Are there drums, barrels, or bulk storage containers present?
X		Are there actual or potential exposure threats?		X	Is the site susceptible to adverse weather conditions?
	X	Is there an actual or a potential threat for contamination of drinking water supplies?		X	Is there a willing/capable PRP response?
	X	Is there a surface water pathway threat?		X	Can the site be referred to another program?

### SITE SCREENING RECOMMENDATIONS

X	<b>Superfund CERCLIS Entry Not Warranted No Further Superfund Response Action Required</b>
	<b>Superfund CERCLIS Entry Warranted Not Recommended For CERCLIS Entry At This Time – Other Response Action Planned</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Additional Integrated Assessment Recommended</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Removal Action Recommended</b> <i>(Complete A Removal Evaluation Form)</i> ___ Emergency      ___ Time-Critical      ___ Non-Time-Critical

#### Comments:

The Federated Metals Division Site is not recommended for entry into CERCLIS at this time. Sampling documented that lead was present above the EPA PRG residential screening levels in surface soils and sub-surface soils within one mile of the site. Additionally, sampling documented that lead was present above the EPA PRG time-critical level in surface soils within the drip-line of a vacant residential home. Although the concentrations of lead exceed these EPA PRG screening levels, there is no evidence of wide spread contamination due to smelting activities in the area. The lead contamination is localized to small areas near two vacant houses with deteriorating paint. The contaminated soil (source) is likely attributable to lead-based paint use.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

### VIII. ADDITIONAL INFORMATION OR COMMENTS

**PREPARED BY:**

NAME: Greg Bach SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**REVIEWED BY:**

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

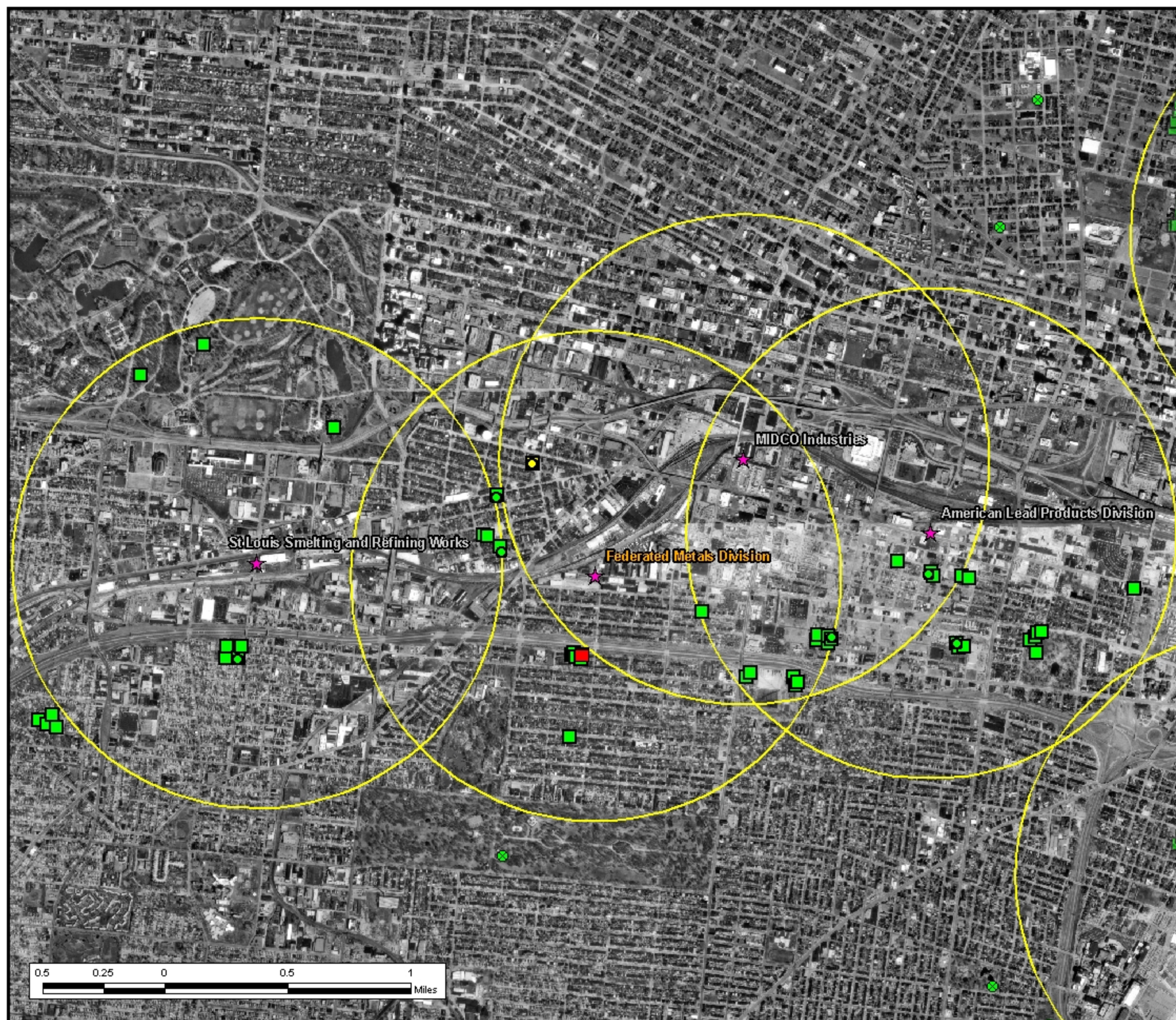
**APPROVED BY:**

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_



# Figure 1

American Lead Products Co., Federated Metals Division,  
MIDCO Industries and St. Louis Smelting & Refining Works  
St. Louis City, MO



## Legend

### Smelter Locations

#### Project Type

- ★ Site Screening
- ★ Site Reassessment
- ▲ Desk Top Review

### Surface Soil Samples

#### Average Pb

- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

### Subsurface Soil Samples

#### Average Pb

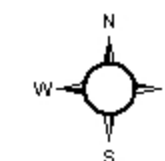
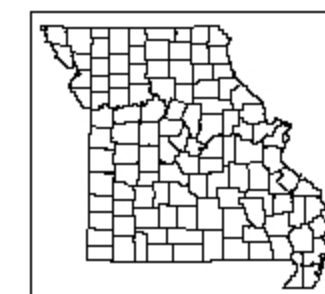
- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

### Soil Background Samples

- Background Soil Samples

### Project Boundaries

- One Mile Buffer of Smelter Locations



Although all data was used in this map, it may have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The use of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.



<b>TABLE 2. XRF RESULTS FOR SOIL SAMPLES COLLECTED JANUARY 26 AND 27, 2005 FEDERATED METALS DIVISION, ST. LOUIS, MISSOURI</b>				
● All values listed in parts per million (mg/kg) ● NL denotes benchmark value not listed in reference source ● Sample results in bold are significantly <sup>1</sup> above background concentrations ● Circled sample results exceed EPA PRG Residential Use Value <sup>4</sup>				
Location	XRF Sample	Sample ID	Sample Type*	Pb Average
Reservoir Park	HWP050052	FEDM01P01SS01	SS	98.0
	HWP050053	FEDM01P02SS02	SS	117.6
	HWP050054	FEDM01P03SS03	SS	81.9
	HWP050057	FEDM01P04SS04	SS	155.1
	HWP050058	FEDM01P05SS05	SS	129.1
4136 Flad	HWP050059	FEDM02V01SS06	SS	184.5
4122 Detonty	HWP050060	FEDM03V01SS07	SS	109.0
4126 Detonty	HWP050061	FEDM04R01SS08	SS	<b>301.5</b>
	HWP050062	FEDM04R01SS09	SS	<b>1307.3</b>
4154 Detonty	HWP050063	FEDM05V01SS10	SS	207.1
	HWP050064	FEDM05V02SS11	SS	237.2
	HWP050065	FEDM05V03SS12	SS	<b>311.7</b>
4333 Hunt	HWP050069	FEDM06V01SB01	SB	<b>181.4</b>
	HWP050068	FEDM06V01SS13	SS	166.0
Adams Park	HWP050070	FEDM07P01SS14	SS	240.0
	HWP050071	FEDM07P02SS15	SS	253.6
4312-4 Manchester	HWP050075	FEDM08V01SB02	SB	95.6
	HWP050074	FEDM08V02SS16	SS	124.5
4311 Gibson	HWP050077	FEDM09R01SB03	SB	<b>568.3</b>
	HWP050076	FEDM09R01SS17	SS	<b>703.5</b>
Average Background SS and SB				88.2 and 41.0
SCDM <sup>2</sup>				NL
CALM <sup>3</sup>				260
EPA PRG <sup>4</sup>				400

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use.

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2001

\* SB - subsurface soil sample collected from 3 -6 inches in depth.

SS - surface soil sample collected from 0-2 inches in depth.



**Photograph 1**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of neighboring property located in  
Federated Metals Division site area.  
View looking northwest.



**Photograph 2**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of a smoke stack on neighboring  
property located in Federated Metals  
Division site area. View looking west.



**Photograph 3**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Compton Hill Reservoir Park, view of  
sampling location 1. View facing north  
from corner of Grand Boulevard and Russell  
Boulevard.



**Photograph 4**  
Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Compton Hill Reservoir Park, view of  
sampling locations 1. View facing north from  
Compton Hill Place.



**Photograph 5**  
Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Compton Hill Reservoir Park, view of  
sampling location 1. View facing south  
towards Compton Hill Place.



**Photograph 6**  
Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Compton Hill Reservoir Park, view of  
sampling location 1. View facing east towards  
Grand Boulevard.





**Photograph 7**

Federated Metals Division Site  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

4136 Flad Avenue, view of sampling  
location 2. View facing south from Flad  
Avenue.



**Photograph 8**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

1422 DeTonty Street, view of sampling  
location 3. View facing south from DeTonty  
Avenue.



**Photograph 9**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

1426 DeTonty Street, view of sampling  
location 4. View facing south from DeTonty  
Avenue.





**Photograph 10**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

1426 DeTonty Street, view of sampling  
location 4. View facing southwest from  
southeast corner of 1426 DeTonty Steet  
residence.



**Photograph 11**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

4154-4156 DeTonty Street, view of sampling  
location 5. View facing southwest from  
DeTonty Street.



**Photograph 12**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

4154-4156 DeTonty Street, view of sampling  
location 5. View facing south from  
DeTonty Street.





**Photograph 13**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
27, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

4333 Hunt Avenue, view of sampling  
location 6. View is facing north from Hunt  
Avenue.



**Photograph 14**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
27, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Adams Park, view of sampling location 7.  
View is facing southeast from corner of  
Newstead Avenue and Norfolk Avenue.



**Photograph 15**

Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
27, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Adams Park, view of sampling location 7.  
View is facing northwest from Vista  
Avenue.



**Photograph 16**  
Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
27, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

4312 Manchester Avenue, view of sampling  
location 8. View is facing southeast from  
Manchester Avenue.



**Photograph 17**  
Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
27, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

4311 Gibson Avenue, view of sampling  
location 9. View is facing southeast from  
alley north of Gibson Avenue.



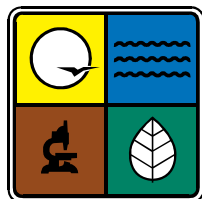
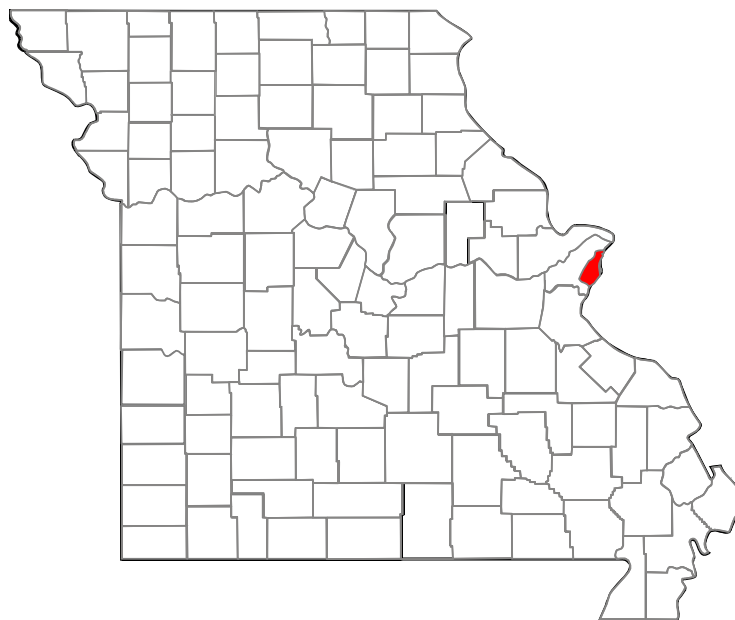
**Photograph 18**  
Federated Metals Division Site,  
St. Louis, Missouri. Photo taken on January  
27, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

4311 Gibson Avenue, view of sampling  
location 9. View is facing southeast from  
alley north of Gibson Avenue.

# **PRE-CERCLIS SITE SCREENING REPORT**

Glendale Zinc Works Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## I. SITE NAME AND LOCATION

**Name:** Glendale Zinc Works

**Alias:** St. Louis FMGP #12, Edgar Zinc Company

**Address or other Location Identifier:** East Nagel St. and Mississippi

**City:** St. Louis

**County:** St. Louis

**State:** MO

**Zip:** 63111

**Directions to Site:** From the intersection of Interstate 70 and Interstate 55, travel south on Interstate 55 to Exit 202c, Loughborough Avenue. Turn left on Loughborough Avenue and continue seven blocks to South Broadway. Turn right on South Broadway and travel three blocks to Nagel Avenue. Turn left on Nagel Avenue and continue ½ a block to the gate. The site was located between the gate and the Mississippi River.

**Map Attached:**  X

## II. SITE REFERRAL INFORMATION

**Referred By:** Citizen petition to the Environmental Protection Agency (EPA), Region 7

**Date of Referral:** 11/13/03

**Reason for Referral (if applicable):** Concern regarding lead contamination in surface soils near former smelters.

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

## III. SITE INFORMATION

**Type of Facility:** Former lead or zinc smelter or processing facility

**Type of Ownership:**

**Owner Name:** Unknown

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Operator Name (if different from owner):**

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Current Site Status:**

**Years of Operation:**

### Operational History:

In November of 2003, a citizen petitioned the EPA to determine the potential for soil contamination resulting from operation of former lead smelters within the City of St. Louis (Reference 5). It is common to find lead contamination in soils, groundwater, and surface water surrounding lead mines, mills and smelter sites. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead and other metals which may have been deposited in surface soils both on and surrounding the sites.

The Glendale Zinc Works smelter operated from 1869 to at least 1908, handling 11,000 tons of zinc. The site was referred to the Missouri Department of Natural Resources on November 13, 2003 by EPA Region 7. Glendale Zinc Works was cited in the 1908 edition of Lead and Zinc in the United States (Reference 5). This site was one of fifteen

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

sites investigated as part of the Former St. Louis Lead and Zinc Smelting and Processes Sites study.

## IV. CERCLA APPLICABILITY [40 CFR 300.410(E)]

1. Is there a release as defined by the NCP? Yes X No     

**Explain:**

Sampling documented a release of lead in the surface soils within one mile of the former facility. Surface soils in two areas contained levels of lead that were significantly above (more than three times) background concentrations established for the site.

*(A RELEASE Is Defined As Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Or Disposing Into The Environment (Including The Abandonment Of Barrels, Containers, And Other Closed Receptacles Containing Any Hazardous Substances Or Pollutant Or Contaminant), But Excludes: Workplace Exposures; Engine Exhaust Emissions; Nuclear Releases Otherwise Regulated; And The Normal Application Of Fertilizer. For Purposes Of The NCP, Release Also Means Threat Of Release.)*

2. Is the source a facility or vessel as defined by the NCP? Yes X No     

**Explain:** The contaminated soil (source) is likely attributable to former leaded gasoline use in the area.

*(A FACILITY Is Defined As Any Building, Structure, Installation, Equipment, Pipe Or Pipeline (Including Any Pipe Into A Sewer Or POTW), Well, Pit, Pond, Lagoon, Impoundment, Ditch, Landfill, Storage Container, Motor Vehicle, Rolling Stock, Or Aircraft Or Any Site Or Area, Where A Hazardous Substance Has Been Deposited, Stored, Disposed Of, Or Placed, Or Otherwise Come To Be Located; But Does Not Include Any Consumer Product In Consumer Use Or Any Vessel. A VESSEL Is Defined As Any Description Of Watercraft Or Other Artificial Contrivance Used, Or Capable Of Being Used, As A Means Of Transportation On Water Other Than A Public Vessel.)*

3. Does the release involve either a hazardous substance, pollutant or contaminant as defined by the NCP? Yes X No     

**Explain:**

The hazardous substance released is lead.

*(A HAZARDOUS SUBSTANCE Means Any Substance, Element, Compound, Mixture, Solution, Hazardous Waste, Toxic Pollutant, Hazardous Air Pollutant, Or Imminently Hazardous Chemical Substance Or Mixture Designated Pursuant To The CWA, CERCLA, SDWA, CAA Or TSCA. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas. The Definition Of POLLUTANT Or CONTAMINANT Includes, But Is Not Limited To, Any Element, Substance, Compound, Or Mixture, Including Disease-Causing Agents, Which After Release Into The Environment And Upon Exposure, Ingestion, Inhalation, Or Assimilation Into Any Organism, Either Directly From The Environment Or Indirectly By Ingestion Through Food Chains, Will Or May Reasonably Be Anticipated To Cause Death, Disease, Behavioral Abnormalities, Cancer, Genetic Mutation, Physiological Malfunctions Or Physical Deformations, In Such Organisms Or Their Offspring. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas.)*

4. Is the release subject to the limitations on response? Yes      No X

**Explain:**

*(The LIMITATIONS ON RESPONSE Provisions Of The NCP (40 CFR 300.400(B) States That Removals Shall Not Be Undertaken In Response To A Release: Of A Naturally Occurring Substance In Its Unaltered Or Natural Form; From Products That Are A Part Of The Structure Of, And Result In Exposure Within, Residential Buildings Or Business Or Community Structures; Or Into Public Or Private Drinking Water Supplies Due To Deterioration Of The System Through Ordinary Use.)*

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

5. Is there a potential for other federal or state response mechanisms? Yes ☐ No ☒

If so, identify the appropriate program:

☐ RCRA                      ☐ NRC                      ☐ FIFRA                      ☐ UST  
☐ State VCP                      ☐ Other State Deferral                      ☐ Other Federal (\_\_\_\_)

Explain:

## V. PATHWAY EVALUATION

### 1. Source and Waste Characteristics

**Source Types and Locations:** The contaminated soil (source) is likely attributable to the use of leaded gasoline.

**Size of Sources:** The source sizes are limited to a small area near a major roadway.

**Waste Types and Quantities:** The quantity of contaminated soil is unknown at this time.

**Hazardous Substances Present:** Lead

### 2. Groundwater Use and Characteristics Within 4 Miles

**General Hydrology:**  
Unknown

**Are Karst Features Present on or Near Site:** Unknown

**Depth to Shallowest Groundwater:** Unknown

**Groundwater Wells Within 4 Miles:** Unknown

**Private Wells:**

**Municipal Wells:**

**Industrial/Agricultural Wells:**

**Locations and Populations Served (if known):**

**Distance to Nearest Drinking Water Well:** Unknown

### 3. Surface Water Use and Characteristics

**Is Site in a Flood Plain:** Unknown      **If Yes,**    ☐ 10 year                      ☐ 100 year                      ☐ 500 year

**Distance to Nearest Surface Water:** Unknown  
(If within 2 miles, fill out surface water pathway)

**List Surface Water Bodies Within 15 Downstream Miles:**



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**Drinking Water Intakes Within 15 Downstream Miles:** Unknown

**Locations and Populations Served (if known):**

**Fisheries, Sensitive Environments or Wetlands Within 15 Downstream Miles:** Unknown

**Significant Features (if known or applicable):**

## 4. Soil and Air Exposure Characteristics

**Number of People Living Within 200 Feet of Site:** Unknown, heavy urban area.

**Number of Schools or Daycares Within 200 Feet of Site:** Unknown

**General Population Within 4 Miles (rural, small city, heavy urban area, etc.):** Heavy urban

**Number of Workers On-Site:**

**Any terrestrial sensitive environments and/or wetlands present on-site?** Yes \_\_\_\_ No \_\_\_\_

**Is site access restricted?** Yes \_\_\_\_ No X

## VI. SUPERFUND SITE SCREENING CRITERIA [40 CFR 300.410(e)]

**1. Does the quantity or concentration of hazardous substances warrant response?** Yes \_\_\_\_ No X

### Explain:

Twenty-six soil samples were collected from eight sampling locations within one mile of the former facility location. One location (a park) outside of a one-mile radius from the site was designated as a background location. Three soil samples were collected from this background location.

Lead concentrations for sampling locations within one mile of the site ranged from 42 ppm to 459 ppm. Of the eight locations sampled, one location contained lead in the surface soils above the EPA PRG of 400 ppm lead: a roadway near a park (458 ppm lead).

**2. Has a PRP been identified?** Yes \_\_\_\_ No X

### Explain:

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

3. Is there an actual or potential exposure to hazardous substances, pollutants or contaminants?

Yes X No    

**Explain:**

Exposure to contaminated soil is possible through contact with the soil. However, the contaminated soil is limited one small area near busy roadway in a residential area. This area has well established vegetation.

4. Is there an actual or a potential threat for contamination of drinking water supplies?

Yes     No X

**Explain:**

At this time, a threat to drinking water supplies is not expected. Groundwater contamination is unlikely because the contamination has been deposited into the surface soils and is not believed to be at depth.

5. Are there hazardous substances, pollutants or contaminants in drums, barrels or bulk storage containers?

Yes     No X

**Explain:**

No drums, barrels, or bulk storage containers were noted in the residential areas sampled.

6. Are there high levels of hazardous substances, pollutants or contaminants in surface soils?

Yes     No X

**Explain:**

Soil on-site contained levels of lead greater than the EPA PRG screening level of 400ppm lead but below the time-critical removal action level of 1200ppm lead for residential settings. Additionally, this contaminated soil is localized to one small area along a roadway near a park.

*("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)*

7. Are there conditions on site which may be susceptible to impact from adverse weather conditions?

Yes     No X

**Explain:** The vegetation is well established in the location with contaminated soils. The migration of lead within the surface soils during adverse weather conditions is unlikely.

8. Is there a threat of fire or explosion?

Yes     No X

**Explain:** Lead contaminated soil is not flammable or explosive.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

9. Are there other situations or factors which warrant further Superfund response?

Yes ☐ No ☒

Explain:

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

### SITE SCREENING FINDINGS

Answer the following questions as support for the site recommendation.

Yes	No	Condition or Factor	Yes	No	Condition or Factor
X		Is there a release or threat of release?	X		Is there a direct soil exposure pathway threat?
X		Is the source a facility or vessel?		X	Are there high levels of contaminants in surface soils?
X		Does the release involve a hazardous substance, pollutant, or contaminant?		X	Is there an air pathway threat?
	X	Is the site subject to response limitations?		X	Is there a threat of fire or explosion?
	X	Does the quantity or concentration of hazardous substances warrant response?		X	Are there drums, barrels, or bulk storage containers present?
X		Are there actual or potential exposure threats?		X	Is the site susceptible to adverse weather conditions?
	X	Is there an actual or a potential threat for contamination of drinking water supplies?		X	Is there a willing/capable PRP response?
	X	Is there a surface water pathway threat?		X	Can the site be referred to another program?

### SITE SCREENING RECOMMENDATIONS

X	<b>Superfund CERCLIS Entry Not Warranted No Further Superfund Response Action Required</b>
	<b>Superfund CERCLIS Entry Warranted Not Recommended For CERCLIS Entry At This Time – Other Response Action Planned</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Additional Integrated Assessment Recommended</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Removal Action Recommended</b> <i>(Complete A Removal Evaluation Form)</i> ___ Emergency              ___ Time-Critical              ___ Non-Time-Critical

#### Comments:

The Glendale Zinc Works Site is not recommended for entry into CERCLIS at this time. Sampling documented that lead was present above EPA PRG residential screening levels in surface soils within one mile of the site. Although the concentrations of lead exceed the EPA PRG screening level, there is no evidence of wide spread contamination due to smelting activities in the area. The lead contamination is localized to a small area near a busy roadway. The contaminated soil (source) is likely attributable to former leaded gasoline use.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

### VIII. ADDITIONAL INFORMATION OR COMMENTS

The western portion of the one-mile radius for the Glendale Zinc Works site overlaps the eastern portion of the one-mile radius for the Theo. Hiertz Metal Co. site. Areas sampled in this overlapping portion were collected to represent both sites. Both sites share the sampling results for all but one location and, therefore, the reports show identical information for these shared locations.

**PREPARED BY:**

NAME: Greg Bach

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**REVIEWED BY:**

NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

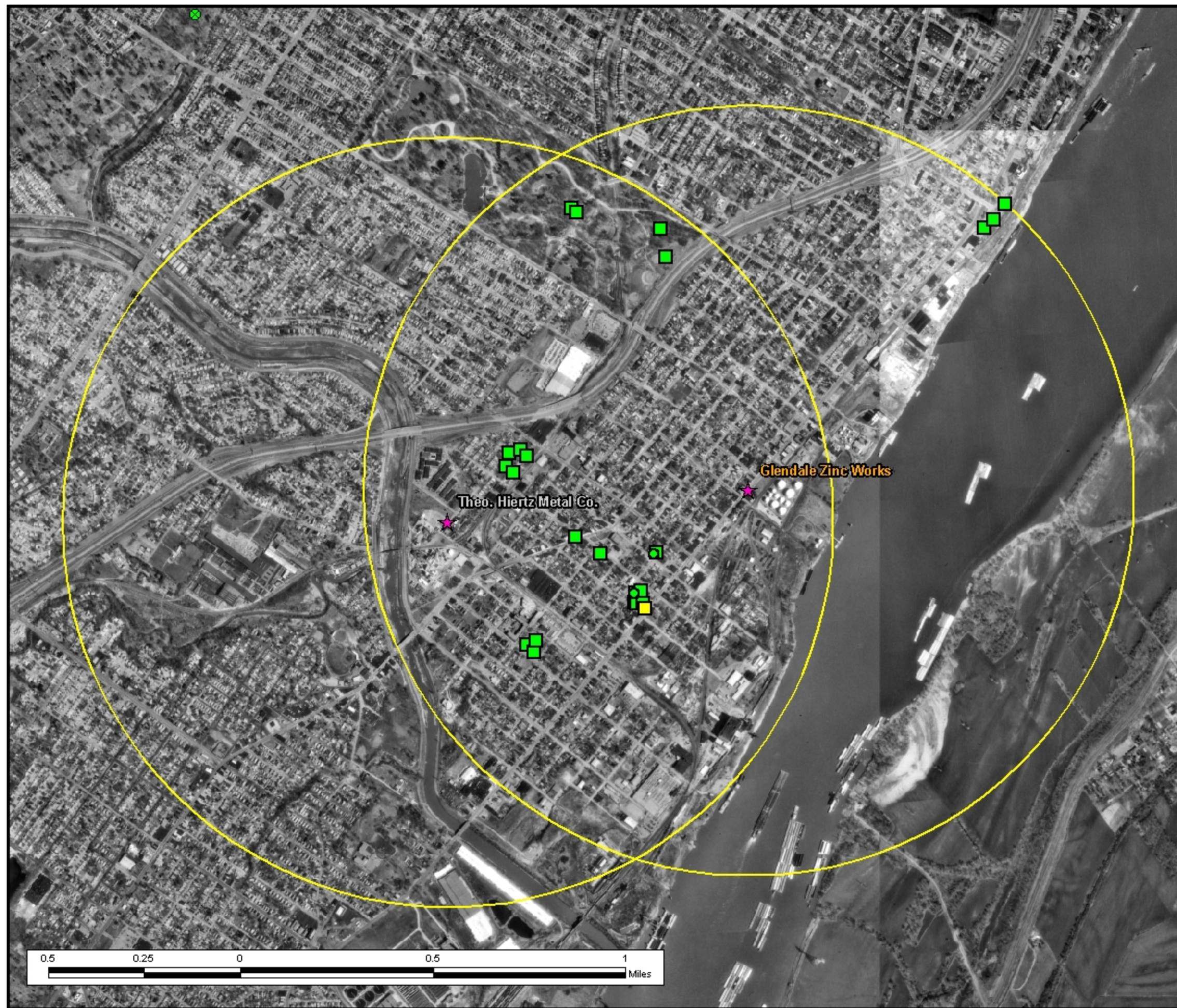
**APPROVED BY:**

NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_





**Figure 1**

Glendale Zinc Works and Theo. Hiertz Metal Co.  
St. Louis City, MO

**Legend**

**Smelter Locations**

**Project Type**

- ★ Site Screening
- ★ Site Reassessment
- ▲ Desk Top Review

**Surface Soil Samples**

**Average Pb**

- Clean (< 400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (> 1,199 ppm)

**Subsurface Soil Samples**

**Average Pb**

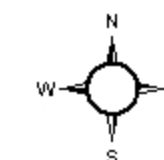
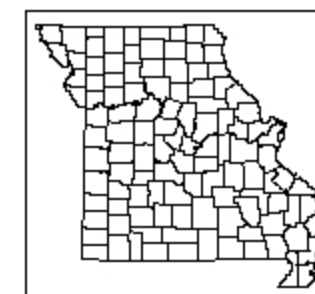
- Clean (< 400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (> 1,199 ppm)

**Soil Background Samples**

- Background Soil Samples

**Project Boundaries**

- One Mile Buffer of Smelter Locations



Although all data was used in creating this map, the data may have been compiled by the Missouri Department of Natural Resources, or otherwise, copyright is implied, is made by the Department, as to the accuracy of the data and related materials. The use of this data shall not constitute any such warranty, and no responsibility is assumed by the Department, in the use of these data or related materials.



<b>TABLE 2. XRF RESULTS FOR SOIL SAMPLES COLLECTED SEPTEMBER 28 AND 30 AND OCTOBER 5, 2004 GLENDALE ZINC WORKS*, ST. LOUIS, MISSOURI</b>				
<ul style="list-style-type: none"> <li>● All values listed in parts per million (mg/kg)</li> <li>● NL denotes benchmark value not listed in reference source</li> <li>● Sample results in bold are significantly<sup>1</sup> above background concentrations</li> <li>● Circled sample results exceed EPA PRG Residential Use Value<sup>4</sup></li> </ul>				
Location	XRF Sample	Sample ID	Sample Type**	Pb Average
South St Louis Square Park	HWP040001	GNZW01P01SS01	SS	140.6
	HWP040002	GNZW01P02SS02	SS	195.9
	HWP040004	GNZW01P03SB01	SB	<b>152.3</b>
	HWP040005	GNZW01P03SS03	SS	184.7
	HWP040007	GNZW01P04SS04	SS	262.9
	HWP040008	GNZW01P05SS05	SS	122.8
	HWP040009	GNZW01P06SS06	SS	<b>458.6</b>
Carondelet Lions Park	HWP040010	GNZW02P01SS07	SS	42.2
	HWP040011	GNZW02P02SS08	SS	132.1
	HWP040012	GNZW02P03SS09	SS	201.4
Carondelet Park	HWP040014	GNZW03P01SS12	SS	43.6
	HWP040016	GNZW03P02SS13	SS	239.5
	HWP040017	GNZW03P03SS14	SS	58.6
	HWP040018	GNZW03P04SS15	SS	<b>336.5</b>
Bellerive Park	HWP040019	GNZW04P01SS16	SS	54.8
	HWP040020	GNZW04P02SS17	SS	227.3
	HWP040021	GNZW04P03SS18	SS	128.4
Villa Memorial Park	HWP040024	GNZW05P01SS19	SS	121.9
Alaska Park	HWP040026	GNZW06P01SS20	SS	41.6
	HWP040027	GNZW06P02SS21	SS	55.7
	HWP040028	GNZW06P03SS22	SS	48.9
	HWP040029	GNZW06P04SS23	SS	47.9
	HWP040030	GNZW06P05SS24	SS	61.5
7700 Michigan	HWP040033	GNZW07V01SS25	SS	132.5
201 Steins	HWP040034	GNZW08V01SB03	SB	<b>137.8</b>
	HWP040035	GNZW08V01SS26	SS	59.8
<b>Average Background SS and SB</b>			88.2 and 41.0	
<b>SCDM<sup>2</sup></b>			NL	
<b>CALM<sup>3</sup></b>			260	
<b>EPA PRG<sup>4</sup></b>			400	

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

\*Same sampling locations as Theo. Hiertz Metal Co. site with the exception of sampling location 4, Bellerive Park.

\*\* SB - subsurface soil sample collected from 3 -6 inches in depth.

SS - surface soil sample collected from 0-2 inches in depth.





**Photograph 1**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Citco Asphalt Plant, Glendale  
Zinc Works site area, Nagel Ave &  
Wharf. View looking northeast.



**Photograph 2**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of St. Louis Barge Terminal  
Property, Glendale Zinc Works site area,  
Nagel Ave & Wharf. View looking  
southeast.



**Photograph 3**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of residential property located  
west of Glendale Zinc Works site area,  
Nagel Ave & Wharf. View looking  
west.



**Photograph 4**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
September 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of So. St. Louis Square Park,  
Sample location 1, Broadway Ave &  
Courtois St. View looking northwest.



**Photograph 5**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
September 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of So. St. Louis Square Park,  
Sample Location 1. View looking south  
from Schrimmer St. and Pennsylvania St.



**Photograph 6**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
September 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of So. St. Louis Square Park,  
Sample Location 1. View looking  
southeast from Pennsylvania St.





**Photograph 7**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Carondelet Lions Park, Sample  
location 2. View looking southeast from  
Virginia St..



**Photograph 8**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Carondelet Lions Park, Sample  
Location 2. View looking south from  
Poepping St. and Virginia St.



**Photograph 9**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of Carondelet Park, Sample  
Location 3. View looking west from  
Arendes St.



**Photograph 10**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Carondelet Park, Sample  
Location 3. Nagel Ave & Wharf. View  
looking northeast towards soccer field.



**Photograph 11**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Bellerive Park, Sample location  
4. View front entrance.



**Photograph 12**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Bellerive Park, Sample  
Location 4. Broadway and Bellerive  
Blvd.. View looking north.





**Photograph 13**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of Bellerive Park, Sample  
Location 4, View looking southwest  
from parking lot.



**Photograph 14**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Alderman Albert (Red) Villa  
Memorial Park, Sample location 5, Ivory  
Ave. and Schirmer St. View looking  
northeast.



**Photograph 15**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of Alderman Albert (Red) Villa  
Memorial Park, Sample Location 5,  
From Steins St. View looking  
southwest.





**Photograph 16**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Alaska Park, Sample location 6,  
Alaska and Koein Streets. View looking  
south.



**Photograph 17**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of Alaska Park, Sample Location 6,  
From Koein Street. View looking  
southwest.



**Photograph 18**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Alaska Park, Sample Location  
6. View looking south from north end of  
park.



**Photograph 19**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovannini, DEQ, HWP, Superfund

View of 7700 Michigan, Sample  
Location 7. View looking south from  
Michigan and Schirmer.



**Photograph 20**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovannini, DEQ, HWP, Superfund

View of 201 Steins, Sample location 8,  
Steins and Pennsylvania Ave.



**Photograph 21**

Glendale Zinc Works Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovannini, DEQ, HWP, Superfund.

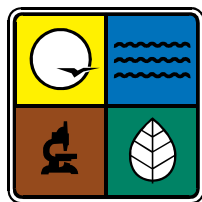
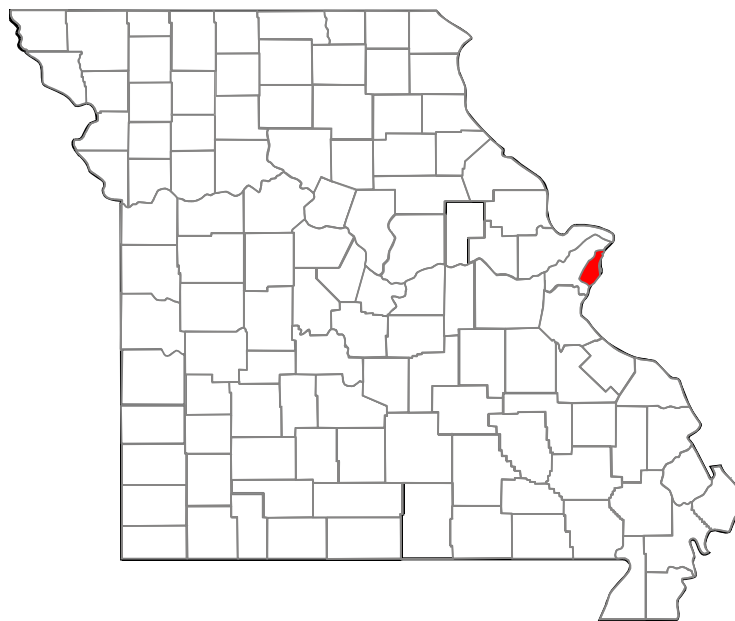
View of 201 Steins, Sample ,Sample  
Location 8. View looking west from  
Steins St.



# **PRE-CERCLIS SITE SCREENING REPORT**

M. Holtzman Metal Co. Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## I. SITE NAME AND LOCATION

**Name:** M. Holtzman Metal Company

**Alias:**

**Address or other Location Identifier:** 5223 McKissock Ave.

**City:** St. Louis

**County:** St. Louis

**State:** MO

**Zip:** 63147

**Directions to Site:** From the intersection of Interstate 70 and East Carrie (exit 246A) travel north on East Carrie approximately 0.1 mile and turn right on North Broadway. Continue on North Broadway approximately 0.5 mile and turn left onto Talcott Avenue. Take Talcott two blocks to McKissock Avenue and turn left on McKissock.

**Map Attached:** X

## II. SITE REFERRAL INFORMATION

**Referred By:** Citizen petition to the Environmental Protection Agency (EPA), Region 7

**Date of Referral:** 11/13/03

**Reason for Referral (if applicable):** Concern regarding lead contamination in surface soils near former smelters.

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

## III. SITE INFORMATION

**Type of Facility:** Former lead or zinc smelter or processing facility

**Type of Ownership:**

**Owner Name:** Unknown

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Operator Name (if different from owner):**

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Current Site Status:**

**Years of Operation:**

### Operational History:

In November of 2003, a citizen petitioned the EPA to determine the potential for soil contamination resulting from operation of former lead smelters within the City of St. Louis (Reference 5). It is common to find lead contamination in soils, groundwater, and surface water surrounding lead mines, mills and smelter sites. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead and other metals which may have been deposited in surface soils both on and surrounding the sites.

There is no operational history available at this time for the M. Holtzman Metal Company. The site was referred to the Missouri Department of Natural Resources on November 13, 2003 by EPA Region 7. The M. Holtzman Metal Company was cited in Appendix B: Babbitt Metal and Solders Smelters from William Eckel's study published in the



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

American Public Health Journal (Reference 5). This site was one of fifteen sites investigated as part of the Former St. Louis Lead and Zinc Smelting and Processes Sites study.

## IV. CERCLA APPLICABILITY [40 CFR 300.410(E)]

1. Is there a release as defined by the NCP? Yes X No     

**Explain:**

Sampling documented a release of lead in the surface soils within one mile of the former facility. Surface soils in four locations contained levels of lead that were significantly above (more than three times) background concentrations established for the site.

*(A RELEASE Is Defined As Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Or Disposing Into The Environment (Including The Abandonment Of Barrels, Containers, And Other Closed Receptacles Containing Any Hazardous Substances Or Pollutant Or Contaminant), But Excludes: Workplace Exposures; Engine Exhaust Emissions; Nuclear Releases Otherwise Regulated; And The Normal Application Of Fertilizer. For Purposes Of The NCP, Release Also Means Threat Of Release.)*

2. Is the source a facility or vessel as defined by the NCP? Yes X No     

**Explain:** The contaminated soil (source) is likely attributable to former lead-based paint and leaded gasoline use in the area.

*(A FACILITY Is Defined As Any Building, Structure, Installation, Equipment, Pipe Or Pipeline (Including Any Pipe Into A Sewer Or POTW), Well, Pit, Pond, Lagoon, Impoundment, Ditch, Landfill, Storage Container, Motor Vehicle, Rolling Stock, Or Aircraft Or Any Site Or Area, Where A Hazardous Substance Has Been Deposited, Stored, Disposed Of, Or Placed, Or Otherwise Come To Be Located; But Does Not Include Any Consumer Product In Consumer Use Or Any Vessel. A VESSEL Is Defined As Any Description Of Watercraft Or Other Artificial Contrivance Used, Or Capable Of Being Used, As A Means Of Transportation On Water Other Than A Public Vessel.)*

3. Does the release involve either a hazardous substance, pollutant or contaminant as defined by the NCP? Yes X No     

**Explain:**

The hazardous substance released is lead.

*(A HAZARDOUS SUBSTANCE Means Any Substance, Element, Compound, Mixture, Solution, Hazardous Waste, Toxic Pollutant, Hazardous Air Pollutant, Or Imminently Hazardous Chemical Substance Or Mixture Designated Pursuant To The CWA, CERCLA, SDWA, CAA Or TSCA. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas. The Definition Of POLLUTANT Or CONTAMINANT Includes, But Is Not Limited To, Any Element, Substance, Compound, Or Mixture, Including Disease-Causing Agents, Which After Release Into The Environment And Upon Exposure, Ingestion, Inhalation, Or Assimilation Into Any Organism, Either Directly From The Environment Or Indirectly By Ingestion Through Food Chains, Will Or May Reasonably Be Anticipated To Cause Death, Disease, Behavioral Abnormalities, Cancer, Genetic Mutation, Physiological Malfunctions Or Physical Deformations, In Such Organisms Or Their Offspring. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas.)*

4. Is the release subject to the limitations on response? Yes      No X

**Explain:**

*(The LIMITATIONS ON RESPONSE Provisions Of The NCP (40 CFR 300.400(B) States That Removals Shall Not Be Undertaken In Response To A Release: Of A Naturally Occurring Substance In Its Unaltered Or Natural Form; From Products That Are A Part Of The Structure Of, And Result In Exposure Within, Residential Buildings Or Business Or Community Structures; Or Into Public Or Private Drinking Water Supplies Due To Deterioration Of The System Through Ordinary Use.)*

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

5. Is there a potential for other federal or state response mechanisms?

Yes ☐ No ☒

If so, identify the appropriate program:

☐ RCRA

☐ NRC

☐ FIFRA

☐ UST

☐ State VCP

☐ Other State Deferral

☐ Other Federal ( )

Explain:

### V. PATHWAY EVALUATION

#### 1. Source and Waste Characteristics

**Source Types and Locations:** The contaminated soil (source) is likely attributable to lead-based paint used in residential buildings and the former use of leaded gasoline.

**Size of Sources:** The source sizes are limited to areas near major roadways and areas where vacant houses have been demolished.

**Waste Types and Quantities:** The quantity of contaminated soil is unknown at this time.

**Hazardous Substances Present:** Lead

#### 2. Groundwater Use and Characteristics Within 4 Miles

**General Hydrology:**  
Unknown

**Are Karst Features Present on or Near Site:** Unknown

**Depth to Shallowest Groundwater:** Unknown

**Groundwater Wells Within 4 Miles:** Unknown

**Private Wells:**

**Municipal Wells:**

**Industrial/Agricultural Wells:**

**Locations and Populations Served (if known):**

**Distance to Nearest Drinking Water Well:** Unknown

#### 3. Surface Water Use and Characteristics

**Is Site in a Flood Plain:** Unknown      **If Yes,**    ☐ 10 year    ☐ 100 year    ☐ 500 year

**Distance to Nearest Surface Water:** Unknown  
(If within 2 miles, fill out surface water pathway)

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**List Surface Water Bodies Within 15 Downstream Miles:**

**Drinking Water Intakes Within 15 Downstream Miles:** Unknown

**Locations and Populations Served (if known):**

**Fisheries, Sensitive Environments or Wetlands Within 15 Downstream Miles:** Unknown

**Significant Features (if known or applicable):**

## 4. Soil and Air Exposure Characteristics

**Number of People Living Within 200 Feet of Site:** Unknown, heavy urban area.

**Number of Schools or Daycares Within 200 Feet of Site:** Unknown

**General Population Within 4 Miles (rural, small city, heavy urban area, etc...):** Heavy urban

**Number of Workers On-Site:**

**Any terrestrial sensitive environments and/or wetlands present on-site?** Yes \_\_\_\_ No \_\_\_\_

**Is site access restricted?** Yes \_\_\_\_ No X

## VI. SUPERFUND SITE SCREENING CRITERIA [40 CFR 300.410(e)]

**1. Does the quantity or concentration of hazardous substances warrant response?** Yes \_\_\_\_ No X

### Explain:

Eighteen soil samples were collected from ten sampling locations within one mile of the former facility location. One location (a park) outside of a one-mile radius from the site was designated as a background location. Three soil samples were collected from this background location.

Lead concentrations for sampling locations within one mile of the site ranged from 26 ppm to 558 ppm. Of the ten locations sampled, three locations contained lead in the surface soils above the EPA PRG of 400 ppm lead: a roadway near a vacant lot (558 ppm lead), a vacant lot (435 ppm), and a roadway in a park (416 ppm).

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**2. Has a PRP been identified?**

Yes ☐ No ☒

**Explain:**

**3. Is there an actual or potential exposure to hazardous substances, pollutants or contaminants?**

Yes ☒ No ☐

**Explain:**

Exposure to contaminated soil is possible through contact with the soil. However, the contaminated soil is limited two small areas near busy roadways and one vacant lot in a residential area. All of these areas have well established vegetation.

**4. Is there an actual or a potential threat for contamination of drinking water supplies?**

Yes ☐ No ☒

**Explain:**

At this time, a threat to drinking water supplies is not expected. Groundwater contamination is unlikely because the contamination has been deposited into the surface soils and is not believed to be at depth.

**5. Are there hazardous substances, pollutants or contaminants in drums, barrels or bulk storage containers?**

Yes ☐ No ☒

**Explain:**

No drums, barrels, or bulk storage containers were noted in the residential areas sampled.

**6. Are there high levels of hazardous substances, pollutants or contaminants in surface soils?**

Yes ☐ No ☒

**Explain:**

Soil on-site contained levels of lead greater than the EPA PRG screening level of 400ppm lead but below the time-critical removal action level of 1200ppm lead for residential settings. Additionally, this contaminated soil is localized to three small areas: a vacant lot and two roadways.

*("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)*

**7. Are there conditions on site which may be susceptible to impact from adverse weather conditions?**

Yes ☐ No ☒

**Explain:** The vegetation is well established in all three locations with contaminated soils. The migration of lead within the surface soils during adverse weather conditions is unlikely.



## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

8. Is there a threat of fire or explosion?

Yes \_\_\_\_ No X

**Explain:** Lead contaminated soil is not flammable or explosive.

9. Are there other situations or factors which warrant further Superfund response?

Yes \_\_\_\_ No X

**Explain:**

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

### SITE SCREENING FINDINGS

Answer the following questions as support for the site recommendation.

Yes	No	Condition or Factor	Yes	No	Condition or Factor
X		Is there a release or threat of release?	X		Is there a direct soil exposure pathway threat?
X		Is the source a facility or vessel?		X	Are there high levels of contaminants in surface soils?
X		Does the release involve a hazardous substance, pollutant, or contaminant?		X	Is there an air pathway threat?
	X	Is the site subject to response limitations?		X	Is there a threat of fire or explosion?
	X	Does the quantity or concentration of hazardous substances warrant response?		X	Are there drums, barrels, or bulk storage containers present?
X		Are there actual or potential exposure threats?		X	Is the site susceptible to adverse weather conditions?
	X	Is there an actual or a potential threat for contamination of drinking water supplies?		X	Is there a willing/capable PRP response?
	X	Is there a surface water pathway threat?		X	Can the site be referred to another program?

### SITE SCREENING RECOMMENDATIONS

X	<b>Superfund CERCLIS Entry Not Warranted No Further Superfund Response Action Required</b>
	<b>Superfund CERCLIS Entry Warranted Not Recommended For CERCLIS Entry At This Time – Other Response Action Planned</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Additional Integrated Assessment Recommended</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Removal Action Recommended</b> <i>(Complete A Removal Evaluation Form)</i> ___ Emergency              ___ Time-Critical              ___ Non-Time-Critical

#### Comments:

The M. Holtzman Metal Company Site is not recommended for entry into CERCLIS at this time. Sampling documented that lead was present above EPA PRG residential screening levels in surface soils within one mile of the site. Although the concentrations of lead exceed the EPA PRG screening level, there is no evidence of wide spread contamination due to smelting activities in the area. The lead contamination is localized to small areas near busy roadways and in a vacant lot where a house was previously demolished. The contaminated soil (source) is likely attributable to former leaded gasoline and lead-based paint use.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

### VIII. ADDITIONAL INFORMATION OR COMMENTS

**PREPARED BY:**

NAME: Greg Bach SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**REVIEWED BY:**

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**APPROVED BY:**

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_



**Figure 1**

M. Holtzman Metal Co.  
St. Louis City, MO

**Legend**

**Smelter Locations**

**Project Type**

- ★ Site Screening
- ★ Site Reassessment
- ▲ Desk Top Review

**Surface Soil Samples**

**Average Pb**

- Clean ( $\leq 400$  ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical ( $\geq 1,199$  ppm)

**Subsurface Soil Samples**

**Average Pb**

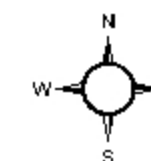
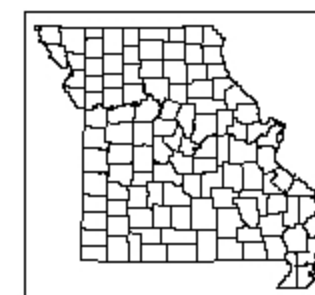
- Clean ( $\leq 400$  ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical ( $\geq 1,199$  ppm)

**Soil Background Samples**

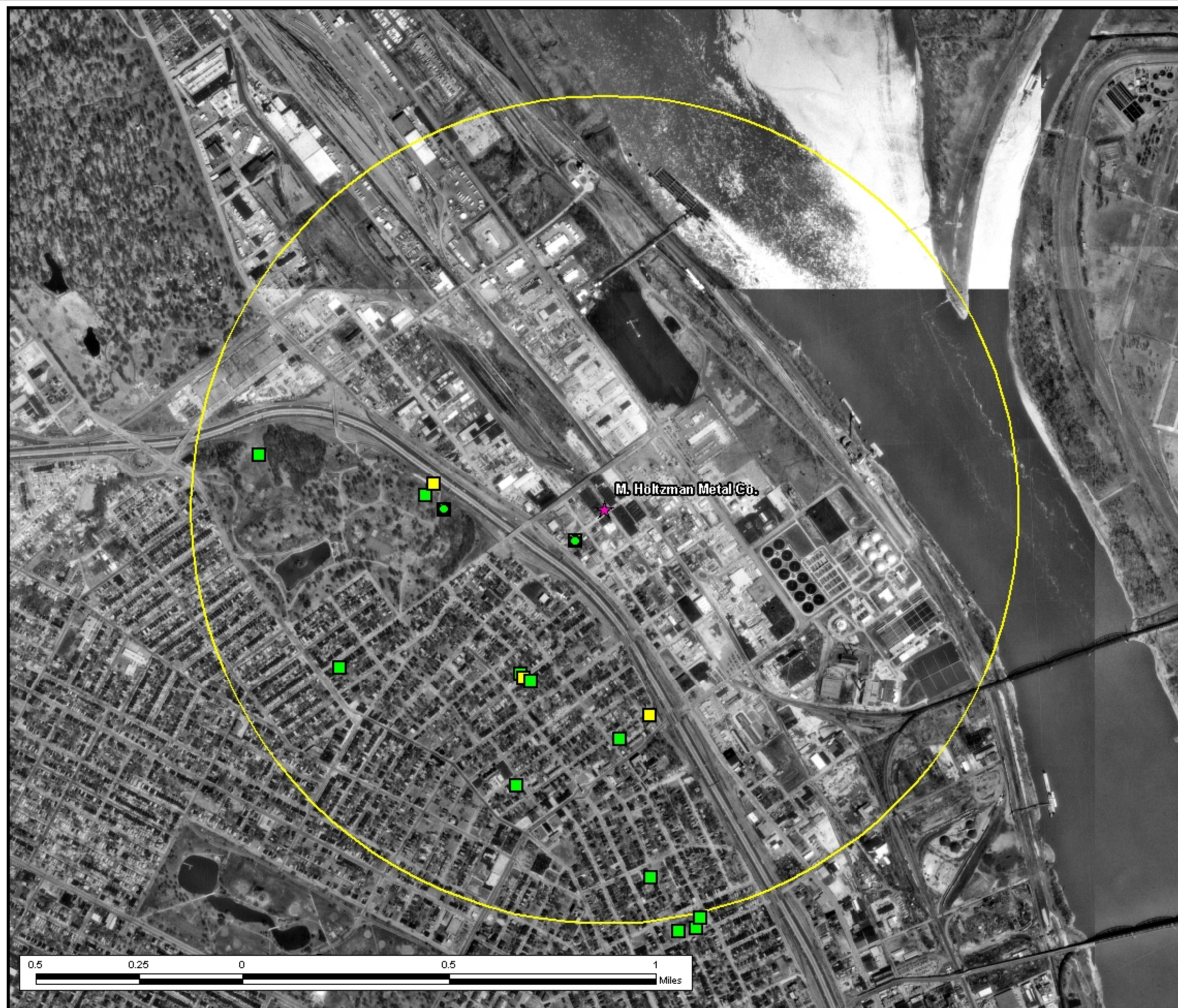
- Background Soil Samples

**Project Boundaries**

- One Mile Buffer of Smelter Locations



Although all data was used in this map, it may have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The use of this information shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.





<b>TABLE 2. XRF RESULTS FOR SOIL SAMPLES COLLECTED NOVEMBER 16 AND 17, 2004 M. HOLTZMAN METAL CO., ST. LOUIS, MISSOURI</b>				
<ul style="list-style-type: none"> <li>● All values listed in parts per million (mg/kg)</li> <li>● NL denotes benchmark value not listed in reference source</li> <li>● Sample results in bold are significantly<sup>1</sup> above background concentrations</li> <li>● Circled sample results exceed EPA PRG Residential Use Value<sup>4</sup></li> </ul>				
Location	XRF Sample	Sample ID	Sample Type	Pb Average
614 Withers	HWP040039	HLOT01V01SB01	SB	<b>350.7</b>
	HWP040040	HLOT01V01SS01	SS	<b>375.1</b>
2140 Adelaide	HWP040041	HLOT02V01SS02	SS	123.6
O'Fallon Park	HWP040042	HLOT03P01SB02	SB	63.0
	HWP040043	HLOT03P01SS03	SS	126.9
	HWP040045	HLOT03P02SS04	SS	93.2
	HWP040047	HLOT03P03SS05	SS	44.7
	HWP040048	HLOT03P04SS06	SS	<b>415.7</b>
Windsor Park	HWP040049	HLOT05P01SS09	SS	160.3
	HWP040050	HLOT05P02SS10	SS	144.3
	HWP040051	HLOT05P03SS11	SS	205.3
4616 Von Phul St.	HWP040053	HLOT06V01SS12	SS	<b>434.8</b>
1440 Obear Ave.	HWP040055	HLOT07V01SS13	SS	26.1
1902-1906 Desoto	HWP040056	HLOT08V01SS14	SS	235.5
1907-1911 Desoto	HWP040057	HLOT09V01SS15	SS	<b>326.8</b>
	HWP040058	HLOT09V02SS16	SS	<b>557.8</b>
2100-2110 John Ave.	HWP040059	HLOT10V01SS17	SS	180.0
4257 19th Street	HWP040060	HLOT11V01SS18	SS	210.2
<b>Average Background SS and SB</b>			88.2 and 41.0	
<b>SCDM<sup>2</sup></b>			NL	
<b>CALM<sup>3</sup></b>			260	
<b>EPA PRG<sup>4</sup></b>			400	

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use.

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

\* SB - subsurface soil sample collected from 3 -6 inches in depth.

SS - surface soil sample collected from 0-2 inches in depth.



**Photograph 1**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of smelter location on McKissock  
Street, presently the Missouri Pipe  
Fitting Company building. View  
looking east.



**Photograph 2**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of smelter location on McKissock  
Street, presently the Missouri Pipe  
Fitting Company building located off of  
Withers Street. View looking east.



**Photograph 3**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Trio Paper and Box Company  
building located on the smelter block,  
McKissock Street. View looking west.



**Photograph 4**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 16, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

614 Withers, Sample location 1. View  
looking southeast from Withers St.



**Photograph 5**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 16, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

614 Withers, Sample location 1. View  
looking south along Withers St.



**Photograph 6**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 16, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

2140 Adelaide, Sample location 2. View  
looking southeast from Adelaide St.





**Photograph 7**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 16, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

O'Fallon Park, Sample location 3. View  
looking east towards Interstate 70.



**Photograph 8**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 16, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

O'Fallon Park, Sample location 3. View  
looking southeast along roadway sample  
unit.



**Photograph 9**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 16, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

O'Fallon Park, Sample location 3. View  
looking north towards ballfield.





**Photograph 10**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 16, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Windsor Park, Sample location 5. View  
looking south from Penrose St. and  
Randall St.



**Photograph 11**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 16, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Windsor Park, Sample location 5. View  
looking west from Angelica St.



**Photograph 12**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 17, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

4616 Von Phul St., Sample location 6.  
View looking east from Von Phul and  
Obear St.





**Photograph 13**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 17, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

1440 Obear Ave, Sample location 7.  
View looking southeast.



**Photograph 14**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 17, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

1902 - 1906 Desoto St., Sample location  
8. View looking east.



**Photograph 15**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 17, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

1902 - 1906 Desoto St., Sample location  
8. View looking southeast.





**Photograph 16**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 17, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

1907 -1911 Desoto St., Sample location  
9. View looking north from Desoto St.



**Photograph 17**

M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 17, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

2100 - 2110 John Ave., Sample location  
10. View looking east from John Ave.



**Photograph 18**

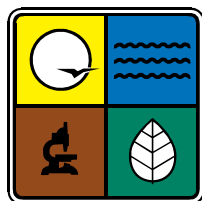
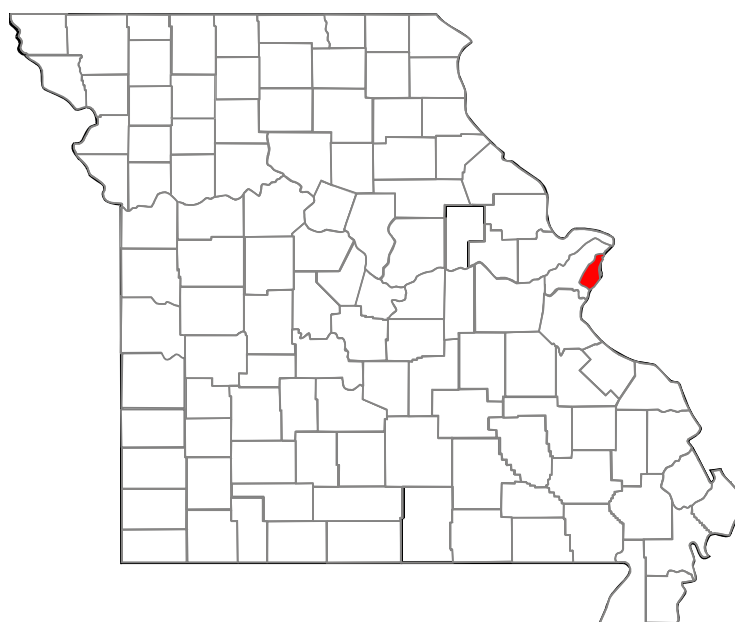
M. Holtzman Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 17, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

4257 19th St., Sample location 11. View  
looking north towards 19th St.

# PRE-CERCLIS SITE SCREENING REPORT

MIDCO Industries Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

I. SITE NAME AND LOCATION			
<b>Name:</b> MIDCO Industries		<b>Alias:</b>	
<b>Address or other Location Identifier:</b> 700 South Spring Avenue			
<b>City:</b> St. Louis	<b>County:</b> St. Louis	<b>State:</b> MO	<b>Zip:</b> 63110
<b>Directions to Site:</b> From the intersection of Interstate 270 and Interstate 64, travel east on Interstate 64 to Exit 36D, Vandeventer Avenue/Chouteau Avenue. Turn left on Chouteau Avenue/MO 100 and continue approximately 0.5 mile to South Spring Avenue. Turn left on South Spring Avenue and arrive at site at the end of Spring Avenue.			
<b>Map Attached:</b> <u>  X  </u>			
II. SITE REFERRAL INFORMATION			
<b>Referred By:</b> Citizen petition to the Environmental Protection Agency (EPA), Region 7		<b>Date of Referral:</b> 11/13/03	
<b>Reason for Referral (if applicable):</b> Concern regarding lead contamination in surface soils near former smelters.			
<b>Mailing Address:</b>			
<b>City:</b>		<b>State:</b>	<b>Zip:</b>
<b>Telephone:</b>		<b>Fax:</b>	
III. SITE INFORMATION			
<b>Type of Facility:</b> Former lead or zinc smelter or processing facility		<b>Type of Ownership:</b>	
<b>Owner Name:</b> Unknown			
<b>Mailing Address:</b>			
<b>City:</b>		<b>State:</b>	<b>Zip:</b>
<b>Telephone:</b>		<b>Fax:</b>	
<b>Operator Name (if different from owner):</b>			
<b>Mailing Address:</b>			
<b>City:</b>		<b>State:</b>	<b>Zip:</b>
<b>Telephone:</b>		<b>Fax:</b>	
<b>Current Site Status:</b>		<b>Years of Operation:</b>	
<b>Operational History:</b> In November of 2003, a citizen petitioned the EPA to determine the potential for soil contamination resulting from operation of former lead smelters within the City of St. Louis (Reference 5). It is common to find lead contamination in soils, groundwater, and surface water surrounding lead mines, mills and smelter sites. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead and other metals which may have been deposited in surface soils both on and surrounding the sites.  MIDCO Industries handled an unknown quantity of lead/tin alloy as a processor until 2001. There is no further operational history available at this time for the site. The site was referred to the Missouri Department of Natural			

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

Resources on November 13, 2003 by EPA Region 7 (Reference 5). This site was one of fifteen sites investigated as part of the Former St. Louis Lead and Zinc Smelting and Processes Sites study.

## IV. CERCLA APPLICABILITY [40 CFR 300.410(E)]

1. Is there a release as defined by the NCP? Yes X No     

**Explain:**

Of the two samples collected for this site, none exceeded three times the background concentration. However, samples from the Federated Metals Division and the American Lead Products Division fall within one mile of this site and contained lead above three times the background concentration. Sampling documented a release of lead in the surface soils within one mile of the former facility.

*(A RELEASE Is Defined As Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Or Disposing Into The Environment (Including The Abandonment Of Barrels, Containers, And Other Closed Receptacles Containing Any Hazardous Substances Or Pollutant Or Contaminant), But Excludes: Workplace Exposures; Engine Exhaust Emissions; Nuclear Releases Otherwise Regulated; And The Normal Application Of Fertilizer. For Purposes Of The NCP, Release Also Means Threat Of Release.)*

2. Is the source a facility or vessel as defined by the NCP? Yes X No     

**Explain:** The contaminated soil (source) is likely attributable to former lead based paint use and former leaded gasoline use in the area.

*(A FACILITY Is Defined As Any Building, Structure, Installation, Equipment, Pipe Or Pipeline (Including Any Pipe Into A Sewer Or POTW), Well, Pit, Pond, Lagoon, Impoundment, Ditch, Landfill, Storage Container, Motor Vehicle, Rolling Stock, Or Aircraft Or Any Site Or Area, Where A Hazardous Substance Has Been Deposited, Stored, Disposed Of, Or Placed, Or Otherwise Come To Be Located; But Does Not Include Any Consumer Product In Consumer Use Or Any Vessel. A VESSEL Is Defined As Any Description Of Watercraft Or Other Artificial Contrivance Used, Or Capable Of Being Used, As A Means Of Transportation On Water Other Than A Public Vessel.)*

3. Does the release involve either a hazardous substance, pollutant or contaminant as defined by the NCP? Yes X No     

**Explain:**

The hazardous substance released is lead.

*(A HAZARDOUS SUBSTANCE Means Any Substance, Element, Compound, Mixture, Solution, Hazardous Waste, Toxic Pollutant, Hazardous Air Pollutant, Or Imminently Hazardous Chemical Substance Or Mixture Designated Pursuant To The CWA, CERCLA, SDWA, CAA Or TSCA. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas. The Definition Of POLLUTANT Or CONTAMINANT Includes, But Is Not Limited To, Any Element, Substance, Compound, Or Mixture, Including Disease-Causing Agents, Which After Release Into The Environment And Upon Exposure, Ingestion, Inhalation, Or Assimilation Into Any Organism, Either Directly From The Environment Or Indirectly By Ingestion Through Food Chains, Will Or May Reasonably Be Anticipated To Cause Death, Disease, Behavioral Abnormalities, Cancer, Genetic Mutation, Physiological Malfunctions Or Physical Deformations, In Such Organisms Or Their Offspring. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas.)*

4. Is the release subject to the limitations on response? Yes      No X

**Explain:**

*(The LIMITATIONS ON RESPONSE Provisions Of The NCP (40 CFR 300.400(B) States That Removals Shall Not Be Undertaken In Response To A Release: Of A Naturally Occurring Substance In Its Unaltered Or Natural Form; From Products That Are A Part Of The Structure Of, And Result In Exposure Within, Residential Buildings Or Business Or Community Structures; Or Into Public Or Private Drinking Water Supplies Due To Deterioration Of The System Through Ordinary Use.)*

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

5. Is there a potential for other federal or state response mechanisms? Yes ☐ No ☒

If so, identify the appropriate program:

☐ RCRA                      ☐ NRC                      ☐ FIFRA                      ☐ UST  
☐ State VCP                      ☐ Other State Deferral                      ☐ Other Federal ( )

Explain:

## V. PATHWAY EVALUATION

### 1. Source and Waste Characteristics

**Source Types and Locations:** The source is likely lead-based paint and leaded gasoline.

**Size of Sources:** The source size is limited to small areas near a major roadway and in the yard of a vacant house.

**Waste Types and Quantities:** The quantity of contaminated soil is unknown at this time.

**Hazardous Substances Present:** Lead

### 2. Groundwater Use and Characteristics Within 4 Miles

**General Hydrology:**  
Unknown

**Are Karst Features Present on or Near Site:** Unknown

**Depth to Shallowest Groundwater:** Unknown

**Groundwater Wells Within 4 Miles:** Unknown

**Private Wells:**

**Municipal Wells:**

**Industrial/Agricultural Wells:**

**Locations and Populations Served (if known):**

**Distance to Nearest Drinking Water Well:** Unknown

### 3. Surface Water Use and Characteristics

**Is Site in a Flood Plain:** Unknown      **If Yes,**    ☐ 10 year                      ☐ 100 year                      ☐ 500 year

**Distance to Nearest Surface Water:** Unknown  
(If within 2 miles, fill out surface water pathway)

**List Surface Water Bodies Within 15 Downstream Miles:**

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**Drinking Water Intakes Within 15 Downstream Miles:** Unknown

**Locations and Populations Served (if known):**

**Fisheries, Sensitive Environments or Wetlands Within 15 Downstream Miles:** Unknown

**Significant Features (if known or applicable):**

## 4. Soil and Air Exposure Characteristics

**Number of People Living Within 200 Feet of Site:** Unknown, heavy urban area.

**Number of Schools or Daycares Within 200 Feet of Site:** Unknown

**General Population Within 4 Miles (rural, small city, heavy urban area, etc.):** Heavy urban

**Number of Workers On-Site:**

**Any terrestrial sensitive environments and/or wetlands present on-site?** Yes \_\_\_\_ No \_\_\_\_

**Is site access restricted?** Yes \_\_\_\_ No X

## VI. SUPERFUND SITE SCREENING CRITERIA [40 CFR 300.410(e)]

**1. Does the quantity or concentration of hazardous substances warrant response?** Yes \_\_\_\_ No X

### Explain:

Two soil samples were collected from one location for this site. However, the one mile radius of this site overlaps the one mile radius of the American Lead Products Co. and the Federated Metals Division sites. The samples in this overlapping area should be considered for all three sites (See Site Location Map/Sampling Map in Section III of this report).

Lead concentrations for sampling locations within one mile of the site ranged from 36 ppm to 298 ppm. No samples exceeded the EPA PRG of 400 ppm lead. Of the seven locations sampled in the overlapping area of these three sites, one location near a busy roadway contained lead in the surface soils above three times the background concentration established for this site.

**2. Has a PRP been identified?** Yes \_\_\_\_ No X

### Explain:



## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

3. Is there an actual or potential exposure to hazardous substances, pollutants or contaminants?

Yes X No    

**Explain:**

Exposure to contaminated soil is possible through contact with the soil. However, the contaminated soil is below the EPA PRG residential screening value of 400 ppm lead. This soil is also covered with well-established vegetation and is limited to one small area near a busy roadway.

4. Is there an actual or a potential threat for contamination of drinking water supplies?

Yes     No X

**Explain:**

At this time, a threat to drinking water supplies is not expected. Groundwater contamination is unlikely because the contamination has been deposited into the surface soils and is not believed to be at depth.

5. Are there hazardous substances, pollutants or contaminants in drums, barrels or bulk storage containers?

Yes     No X

**Explain:**

No drums, barrels, or bulk storage containers were noted in the residential areas sampled.

6. Are there high levels of hazardous substances, pollutants or contaminants in surface soils?

Yes     No X

**Explain:**

Soil on-site contained levels of lead below the EPA PRG screening level of 400ppm lead for residential settings.

*("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)*

7. Are there conditions on site which may be susceptible to impact from adverse weather conditions?

Yes     No X

**Explain:** The vegetation is well established in the location with contaminated soils. The migration of lead within the surface soils during adverse weather conditions is unlikely.

8. Is there a threat of fire or explosion?

Yes     No X

**Explain:** Lead contaminated soil is not flammable or explosive.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

9. Are there other situations or factors which warrant further Superfund response?

Yes ☐ No ☒

Explain:

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

### SITE SCREENING FINDINGS

Answer the following questions as support for the site recommendation.

Yes	No	Condition or Factor	Yes	No	Condition or Factor
X		Is there a release or threat of release?	X		Is there a direct soil exposure pathway threat?
X		Is the source a facility or vessel?		X	Are there high levels of contaminants in surface soils?
X		Does the release involve a hazardous substance, pollutant, or contaminant?		X	Is there an air pathway threat?
	X	Is the site subject to response limitations?		X	Is there a threat of fire or explosion?
	X	Does the quantity or concentration of hazardous substances warrant response?		X	Are there drums, barrels, or bulk storage containers present?
X		Are there actual or potential exposure threats?		X	Is the site susceptible to adverse weather conditions?
	X	Is there an actual or a potential threat for contamination of drinking water supplies?		X	Is there a willing/capable PRP response?
	X	Is there a surface water pathway threat?		X	Can the site be referred to another program?

### SITE SCREENING RECOMMENDATIONS

X	<b>Superfund CERCLIS Entry Not Warranted No Further Superfund Response Action Required</b>
	<b>Superfund CERCLIS Entry Warranted Not Recommended For CERCLIS Entry At This Time – Other Response Action Planned</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Additional Integrated Assessment Recommended</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Removal Action Recommended</b> <i>(Complete A Removal Evaluation Form)</i> ___ Emergency              ___ Time-Critical              ___ Non-Time-Critical

#### Comments:

The MIDCO Industries Site is not recommended for entry into CERCLIS at this time. Sampling documented that lead was present below the EPA PRG residential screening levels in surface soils within one mile of the site. Although the concentrations of lead in one sample exceed three times the background concentration, this sample was located in a small area near a roadway. There is no evidence of wide spread contamination due to smelting activities in the area. The source of this contamination is likely attributable to former leaded gasoline use.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

### VIII. ADDITIONAL INFORMATION OR COMMENTS

The one mile radius of the MIDCO Industries Site overlaps the American Lead Products Division to the east and the Federated Metals Division to the west. Samples collected within these overlap areas were assigned to one specific site for documentation purposes. These samples were taken into account in the reports of all three sites.

**PREPARED BY:**

NAME: Greg Bach

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**REVIEWED BY:**

NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**APPROVED BY:**

NAME: \_\_\_\_\_

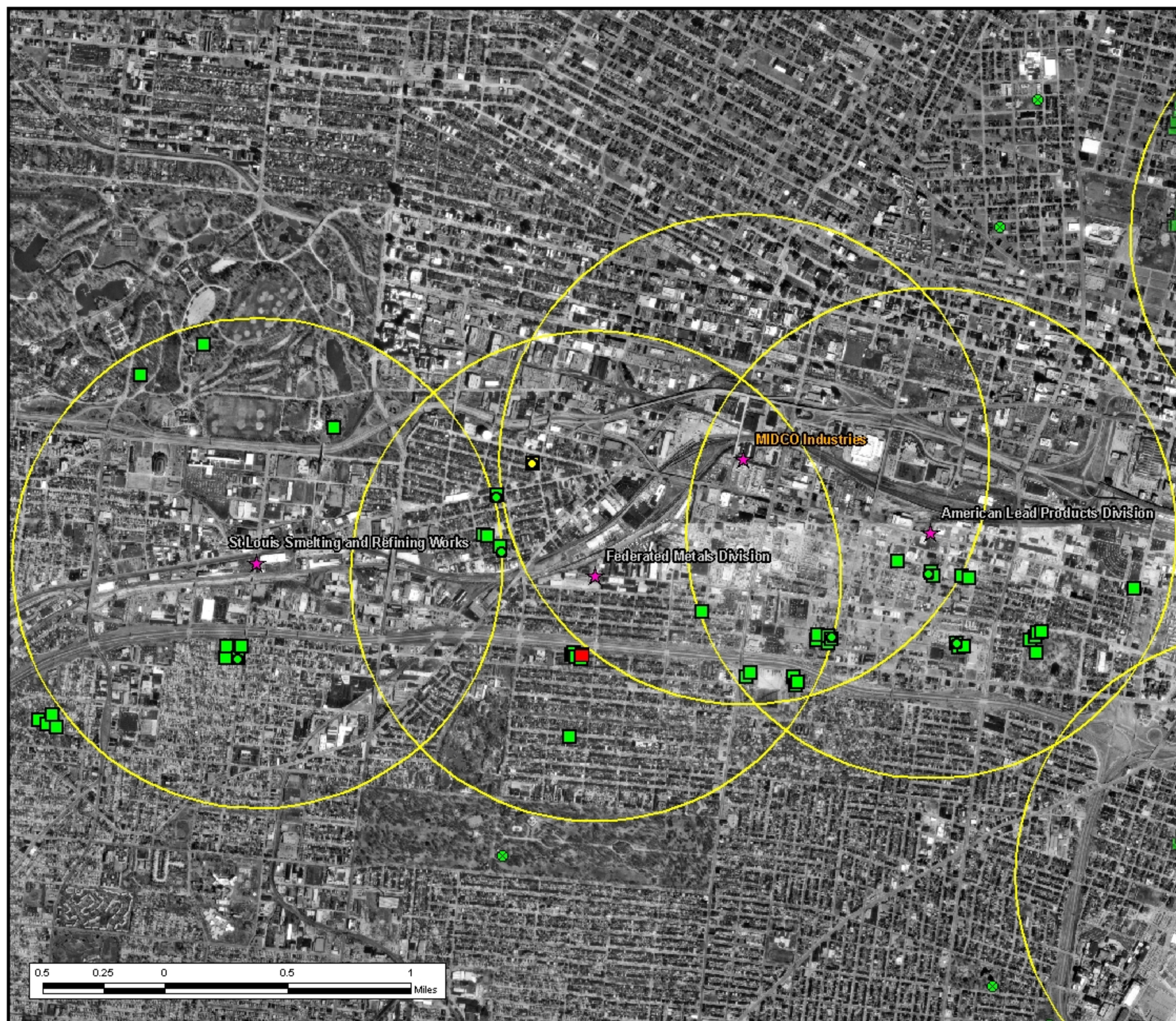
SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_



# Figure 1

American Lead Products Co., Federated Metals Division,  
MIDCO Industries and St. Louis Smelting & Refining Works  
St. Louis City, MO



## Legend

### Smelter Locations

#### Project Type

- ★ Site Screening
- ★ Site Reassessment
- △ Desk Top Review

### Surface Soil Samples

#### Average Pb

- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

### Subsurface Soil Samples

#### Average Pb

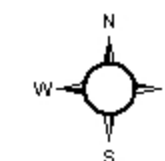
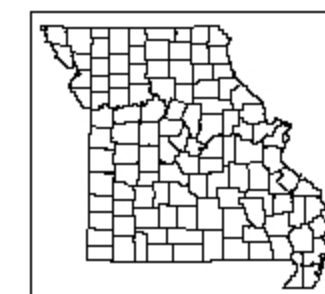
- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

### Soil Background Samples

- Background Soil Samples

### Project Boundaries

- One Mile Buffer of Smelter Locations



Although all data was used in this map, it may have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The use of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.



<b>TABLE 2. XRF RESULTS FOR SOIL SAMPLES COLLECTED JANUARY 26, 2005 MIDCO INDUSTRIES, ST. LOUIS, MISSOURI</b>				
<ul style="list-style-type: none"> <li>● All values listed in parts per million (mg/kg)</li> <li>● NL denotes benchmark value not listed in reference source</li> <li>● Sample results in bold are significantly<sup>1</sup> above background concentrations</li> <li>● Circled sample results exceed EPA PRG Residential Use Value<sup>4</sup></li> </ul>				
<b>Location</b>	<b>XRF Sample</b>	<b>Sample ID</b>	<b>Sample Type</b>	<b>Pb Average</b>
Dundee Place Park	HWP050050	MIDC01P01SS01	SS	18.0
	HWP050051	MIDC01P02SS02	SS	71.8
<b>Average Background SS and SB</b>				88.2 and 41.0
<b>SCDM<sup>2</sup></b>				NL
<b>CALM<sup>3</sup></b>				260
<b>EPA PRG<sup>4</sup></b>				400

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use.

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

\* SB - subsurface soil sample collected from 3 -6 inches in depth.

SS - surface soil sample collected from 0-2 inches in depth.



**Photograph 1**

MIDCO Industries Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

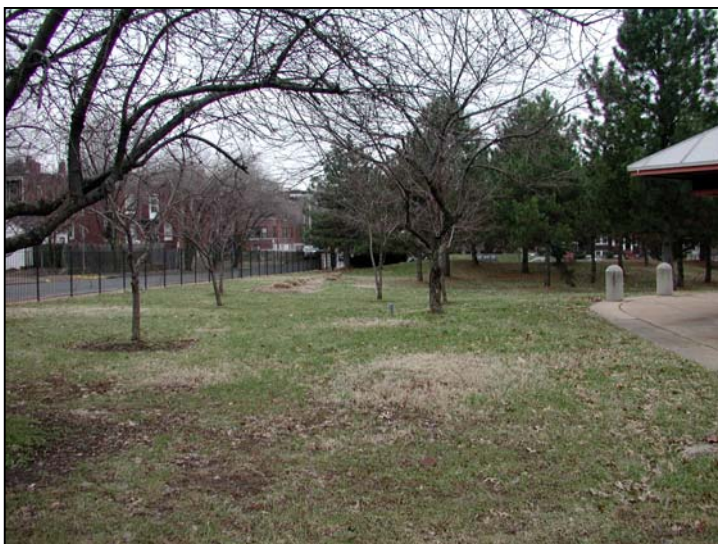
Dundee Place Park, view of sampling  
location 1. View is facing west from Spring  
Avenue.



**Photograph 2**

MIDCO Industries Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Dundee Place Park, view of sampling  
location 1. View is facing north..



**Photograph 3**

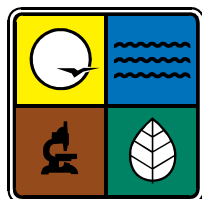
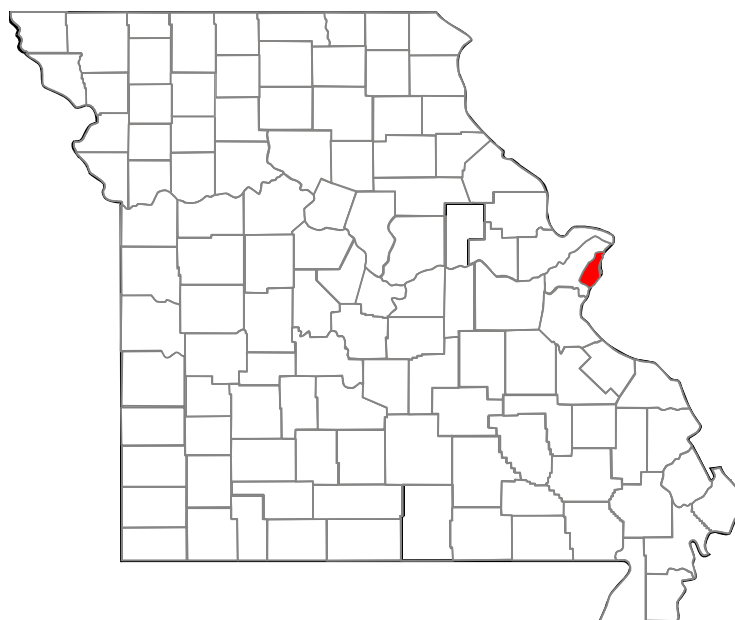
MIDCO Industries Site,  
St. Louis, Missouri. Photo taken on January  
26, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Dundee Place Park, view of sampling  
location 1. View is facing south.

# **PRE-CERCLIS SITE SCREENING REPORT**

St. Louis Lead & Oil Works Site  
St. Louis, Missouri  
MOD980631485

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## I. SITE NAME AND LOCATION

**Name:** St. Louis Lead and Oil Works

**Alias:**

**Address or other Location Identifier:** Corner of North 2<sup>nd</sup> Street and Cass Avenue

**City:** St. Louis

**County:** St. Louis

**State:** MO

**Zip:** 63106

**Directions to Site:** Take Interstate 70 east into St. Louis to the Tenth Street exit (exit 249A) and go straight on North 10<sup>th</sup> Street two blocks to the intersection of Cass Avenue. Turn left on Cass Avenue and continue four blocks to the corner of North 2<sup>nd</sup> and Cass.

**Map Attached:** X

## II. SITE REFERRAL INFORMATION

**Referred By:** Citizen petition to the Environmental Protection Agency (EPA), Region 7

**Date of Referral:** 11/13/03

**Reason for Referral (if applicable):** Concern regarding lead contamination in surface soils near former smelters.

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

## III. SITE INFORMATION

**Type of Facility:** Former lead or smelter facility

**Type of Ownership:**

**Owner Name:** Unknown

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Operator Name (if different from owner):**

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Current Site Status:**

**Years of Operation:**

### Operational History:

In November of 2003, a citizen petitioned the EPA to determine the potential for soil contamination resulting from operation of former lead smelters within the City of St. Louis (Reference 5). It is common to find lead contamination in soils, groundwater, and surface water surrounding lead mines, mills and smelter sites. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead and other metals which may have been deposited in surface soils both on and surrounding the sites.

The St. Louis Lead and Oil Works company operated from at least 1870 to 1877 producing 3,000 tons per year. The site was referred to the Missouri Department of Natural Resources on November 13, 2003 by EPA Region 7 (Reference 5). This site was one of fifteen sites investigated as part of the Former St. Louis Lead and Zinc Smelting and Processes Sites

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

study.

There has been confusion regarding the identity and location of the St. Louis Lead and Oil Works site. Historical records indicate the St. Louis Lead and Oil Company owned two sites with similar names in St. Louis, one at 5548 Manchester Avenue and one at the intersection of North 2nd Street and Cass Avenue (Reference 11). During records search and review for preparing the Missouri Lead and Zinc Smelter Inventory by EPA, the site located at North 2nd Street and Cass Avenue was listed with an address of North 10th Street and Cass Avenue. The list of 15 smelter sites referred to the department for investigation for the Former St. Louis Lead and Zinc Smelting and Processing Sites study included this site, with the address at North 10th Street and with an MOD number belonging to the Manchester Avenue site. The site located on Manchester Avenue was not included in the list of St. Louis Smelters to be investigated.

Due to the confusion among the sites, the St. Louis Lead and Oil Company site at 5548 Manchester Avenue (MOD980631485) was not investigated as part of the Former St. Louis Lead and Zinc Smelting and Processing Sites study. The Manchester Avenue site has had previous CERCLA investigation. This site had a PA completed in 1984 (EPA archives show a September 1986 completion). The investigation included a site visit and an interview with National Lead Industries (NL) officials. Information learned during the interview was related to improper on-site storage of varying grades of lead oxide and on-site worker health. The PA concluded that there was no reason to believe that the operations were harmful to the on-site employees, neighboring companies or the surrounding environment. No evidence was found to support the assumption that waste chemicals were improperly stored or disposed of on the plant site. No further action was recommended (Reference 14)

In June 1988, the EPA tasked Ecology and Environment, Inc. Field Investigation Team (E&E/FIT) to conduct a PA reevaluation of the St. Louis Lead and Oil Company site in St. Louis, Missouri. The site address for this report was 5548 Manchester. No additional information was provided by this report and the recommendations concur with the previous PA investigation (Reference 15). No samples were collected as part of either of these investigations.

EPA archives show an SI completed for the St. Louis Lead and Oil Company site in August 1989. The SI concluded no further action was recommended and the site was archived in August 1989.

In June 2001, the department completed a Desk Top Review (DTR) for the St. Louis Lead and Oil Works site, with an alias of St. Louis Lead and Oil Co. The DTR located the site at the southwest block of the intersection of North Main Street and Cass Avenue. The site was identified as the St. Louis Lead and Oil Works on both a historic Whipple's Plat Map and in "Pictorial St. Louis, 1875", a book of historic panoramic illustrations of St. Louis. The address listed for this site in these sources, however, was 2nd Street and Cass Avenue. The facility was in operation from at least 1870 until 1877. The DTR stated that several large buildings are currently present on the site. The DTR concluded that lead, among other metals, was likely present in on-site soils as a result of the smelter's operation and a Pre-CERCLIS Site Screening was recommended to identify potential threats posed by these hazardous substances (Reference 11).

Field work for this site investigation as part of the Former St. Louis Lead and Zinc Smelting and Processing Sites study began with a site visit to the intersection of North 10th Street and Cass Avenue on November 19, 2003. A site location map is included as Figure 1 in Section III. This location will be referred to as the Study Area Center Point as it does not locate the actual site but represents the center of the one mile radius for the site. The Study Area Center Point is located in an industrial/residential area of St. Louis City. There is no evidence of former smelter structures at this location. A bus parking lot and an unkempt baseball field are present. No source material was observed throughout the one-mile radius surrounding this location. Photos of the surrounding area are included in Section V.

Department personnel visited the North 2nd Street and Cass Avenue location on May 18, 2006. This location is indicated on Figure 1 in Section III as the St. Louis Lead and Oil Works Site. This site location is in an industrial/commercial area of St. Louis City. There is no evidence of former smelter structures at this location. A parking lot owned by a local casino resides on the southern portion of the property. It is a paved lot with a security fence surrounding it. The northern portion of the lot (towards Cass Avenue) is an unpaved parking lot with no fence. No source material was observed at this location. Photos of the area are included in Section V.

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## IV. CERCLA APPLICABILITY

[40 CFR 300.410(E)]

1. Is there a release as defined by the NCP?

Yes X No     

**Explain:**

Sampling documented a release of lead in the surface soils within one mile of the Study Area Center Point. Surface soils in six locations contained levels of lead that were significantly above (more than three times) background concentrations established for the site.

*(A RELEASE Is Defined As Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Or Disposing Into The Environment (Including The Abandonment Of Barrels, Containers, And Other Closed Receptacles Containing Any Hazardous Substances Or Pollutant Or Contaminant), But Excludes: Workplace Exposures; Engine Exhaust Emissions; Nuclear Releases Otherwise Regulated; And The Normal Application Of Fertilizer. For Purposes Of The NCP, Release Also Means Threat Of Release.)*

2. Is the source a facility or vessel as defined by the NCP?

Yes X No     

**Explain:** The contaminated soil (source) is likely attributable to former lead-based paint use in the area.

*(A FACILITY Is Defined As Any Building, Structure, Installation, Equipment, Pipe Or Pipeline (Including Any Pipe Into A Sewer Or POTW), Well, Pit, Pond, Lagoon, Impoundment, Ditch, Landfill, Storage Container, Motor Vehicle, Rolling Stock, Or Aircraft Or Any Site Or Area, Where A Hazardous Substance Has Been Deposited, Stored, Disposed Of, Or Placed, Or Otherwise Come To Be Located; But Does Not Include Any Consumer Product In Consumer Use Or Any Vessel. A VESSEL Is Defined As Any Description Of Watercraft Or Other Artificial Contrivance Used, Or Capable Of Being Used, As A Means Of Transportation On Water Other Than A Public Vessel.)*

3. Does the release involve either a hazardous substance, pollutant or contaminant as defined by the NCP?

Yes X No     

**Explain:**

The hazardous substance released is lead.

*(A HAZARDOUS SUBSTANCE Means Any Substance, Element, Compound, Mixture, Solution, Hazardous Waste, Toxic Pollutant, Hazardous Air Pollutant, Or Imminently Hazardous Chemical Substance Or Mixture Designated Pursuant To The CWA, CERCLA, SDWA, CAA Or TSCA. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas. The Definition Of POLLUTANT Or CONTAMINANT Includes, But Is Not Limited To, Any Element, Substance, Compound, Or Mixture, Including Disease-Causing Agents, Which After Release Into The Environment And Upon Exposure, Ingestion, Inhalation, Or Assimilation Into Any Organism, Either Directly From The Environment Or Indirectly By Ingestion Through Food Chains, Will Or May Reasonably Be Anticipated To Cause Death, Disease, Behavioral Abnormalities, Cancer, Genetic Mutation, Physiological Malfunctions Or Physical Deformations, In Such Organisms Or Their Offspring. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas.)*

4. Is the release subject to the limitations on response?

Yes      No X

**Explain:**

*(The LIMITATIONS ON RESPONSE Provisions Of The NCP (40 CFR 300.400(B) States That Removals Shall Not Be Undertaken In Response To A Release: Of A Naturally Occurring Substance In Its Unaltered Or Natural Form; From Products That Are A Part Of The Structure Of, And Result In Exposure Within, Residential Buildings Or Business Or Community Structures; Or Into Public Or Private Drinking Water Supplies Due To Deterioration Of The System Through Ordinary Use.)*

5. Is there a potential for other federal or state response mechanisms?

Yes      No X

If so, identify the appropriate program:

     RCRA

     NRC

     FIFRA

     UST

     State VCP

     Other State Deferral

     Other Federal ( )

**Explain:**

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## V. PATHWAY EVALUATION

### 1. Source and Waste Characteristics

**Source Types and Locations:** The contaminated soil (source) is likely attributable to lead-based paint used in residential buildings.

**Size of Sources:** The source sizes are limited to areas where vacant houses have been demolished.

**Waste Types and Quantities:** The quantity of contaminated soil is unknown at this time.

**Hazardous Substances Present:** Lead

### 2. Groundwater Use and Characteristics Within 4 Miles

**General Hydrology:**  
Unknown

**Are Karst Features Present on or Near Site:** Unknown

**Depth to Shallowest Groundwater:** Unknown

**Groundwater Wells Within 4 Miles:** Unknown

**Private Wells:**

**Municipal Wells:**

**Industrial/Agricultural Wells:**

**Locations and Populations Served (if known):**

**Distance to Nearest Drinking Water Well:** Unknown

### 3. Surface Water Use and Characteristics

**Is Site in a Flood Plain:** Unknown      **If Yes,**    \_\_\_ 10 year            \_\_\_ 100 year            \_\_\_ 500 year

**Distance to Nearest Surface Water:** Unknown  
(If within 2 miles, fill out surface water pathway)

**List Surface Water Bodies Within 15 Downstream Miles:**

**Drinking Water Intakes Within 15 Downstream Miles:** Unknown

**Locations and Populations Served (if known):**



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**Fisheries, Sensitive Environments or Wetlands Within 15 Downstream Miles:** Unknown

**Significant Features (if known or applicable):**

## 4. Soil and Air Exposure Characteristics

**Number of People Living Within 200 Feet of Site:** Unknown, heavy urban area.

**Number of Schools or Daycares Within 200 Feet of Site:** Unknown

**General Population Within 4 Miles (rural, small city, heavy urban area, etc...):** Heavy urban

**Number of Workers On-Site:**

**Any terrestrial sensitive environments and/or wetlands present on-site?** Yes ☐ No ☐

**Is site access restricted?** Yes ☐ No ☒

## VI. SUPERFUND SITE SCREENING CRITERIA [40 CFR 300.410(e)]

**1. Does the quantity or concentration of hazardous substances warrant response?** Yes ☐ No ☒

### Explain:

A total of thirty soil samples were collected from eleven sampling locations within one mile of the former facility location. Lead concentrations for sampling locations within one mile of the site ranged from 44 ppm to 1090 ppm. Of the eleven locations sampled, two locations (both vacant lots) contained lead in the surface soils at 505, 804, and 1090 ppm lead, above the EPA PRG of 400 ppm lead.

**2. Has a PRP been identified?** Yes ☐ No ☒

### Explain:

**3. Is there an actual or potential exposure to hazardous substances, pollutants or contaminants?** Yes ☒ No ☐

### Explain:

Exposure to contaminated soil is possible through contact with the soil. However, the contaminated soil is limited to three small areas in two vacant lots in a residential area. All of these areas have well-established vegetation.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

4. Is there an actual or a potential threat for contamination of drinking water supplies?

Yes \_\_\_\_ No X

**Explain:**

At this time, a threat to drinking water supplies is not expected. Groundwater contamination is unlikely because the contamination has been deposited into the surface soils and is not believed to be at depth.

5. Are there hazardous substances, pollutants or contaminants in drums, barrels or bulk storage containers?

Yes \_\_\_\_ No X

**Explain:**

No drums, barrels, or bulk storage containers were noted in the residential areas sampled.

6. Are there high levels of hazardous substances, pollutants or contaminants in surface soils?

Yes \_\_\_\_ No X

**Explain:**

Soil on-site contained levels of lead greater than the EPA PRG screening level of 400ppm lead but below the time-critical removal action level of 1200ppm lead for residential settings. Additionally, this contaminated soil is localized to three small areas within two vacant lots.

*("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)*

7. Are there conditions on site which may be susceptible to impact from adverse weather conditions?

Yes \_\_\_\_ No X

**Explain:** The vegetation is well established in all three locations with contaminated soils. The migration of lead within the surface soils during adverse weather conditions is unlikely.

8. Is there a threat of fire or explosion?

Yes \_\_\_\_ No X

**Explain:** Lead contaminated soil is not flammable or explosive.

9. Are there other situations or factors which warrant further Superfund response?

Yes \_\_\_\_ No X

**Explain:**

**MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM**

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

### SITE SCREENING FINDINGS

Answer the following questions as support for the site recommendation.

Yes	No	Condition or Factor	Yes	No	Condition or Factor
X		Is there a release or threat of release?	X		Is there a direct soil exposure pathway threat?
X		Is the source a facility or vessel?		X	Are there high levels of contaminants in surface soils?
X		Does the release involve a hazardous substance, pollutant, or contaminant?		X	Is there an air pathway threat?
	X	Is the site subject to response limitations?		X	Is there a threat of fire or explosion?
	X	Does the quantity or concentration of hazardous substances warrant response?		X	Are there drums, barrels, or bulk storage containers present?
X		Are there actual or potential exposure threats?		X	Is the site susceptible to adverse weather conditions?
	X	Is there an actual or a potential threat for contamination of drinking water supplies?		X	Is there a willing/capable PRP response?
	X	Is there a surface water pathway threat?		X	Can the site be referred to another program?

### SITE SCREENING RECOMMENDATIONS

X	<b>Superfund CERCLIS Entry Not Warranted No Further Superfund Response Action Required</b>
	<b>Superfund CERCLIS Entry Warranted Not Recommended For CERCLIS Entry At This Time – Other Response Action Planned</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Additional Integrated Assessment Recommended</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Removal Action Recommended</b> <i>(Complete A Removal Evaluation Form)</i> ___ Emergency      ___ Time-Critical      ___ Non-Time-Critical

#### Comments:

The St. Louis Lead and Oil Works Site is not recommended for entry into CERCLIS at this time. Sampling documented that lead was present above EPA PRG residential screening levels in surface soils within one mile of the site. Although the concentrations of lead exceed the EPA PRG screening level, there is no evidence of wide spread contamination due to smelting activities in the area. The lead contamination is localized to three small areas within two vacant lots where a house was previously demolished. The contaminated soil (source) is likely attributable to former lead-based paint use.



## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

### VIII. ADDITIONAL INFORMATION OR COMMENTS

**PREPARED BY:**

NAME: Greg Bach

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**REVIEWED BY:**

NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**APPROVED BY:**

NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_



**Figure 1**

St. Louis Lead & Oil Works  
St. Louis City, MO

**Legend**

**Smelter Locations**

**Project Type**

- ★ Site Screening
- ★ Site Reassessment
- ▲ Desk Top Review
- ★ Study Area 4 Center Point

**Surface Soil Samples**

**Average Pb**

- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

**Subsurface Soil Samples**

**Average Pb**

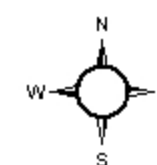
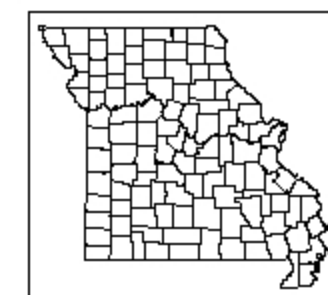
- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

**Soil Background Samples**

- Background Soil Samples

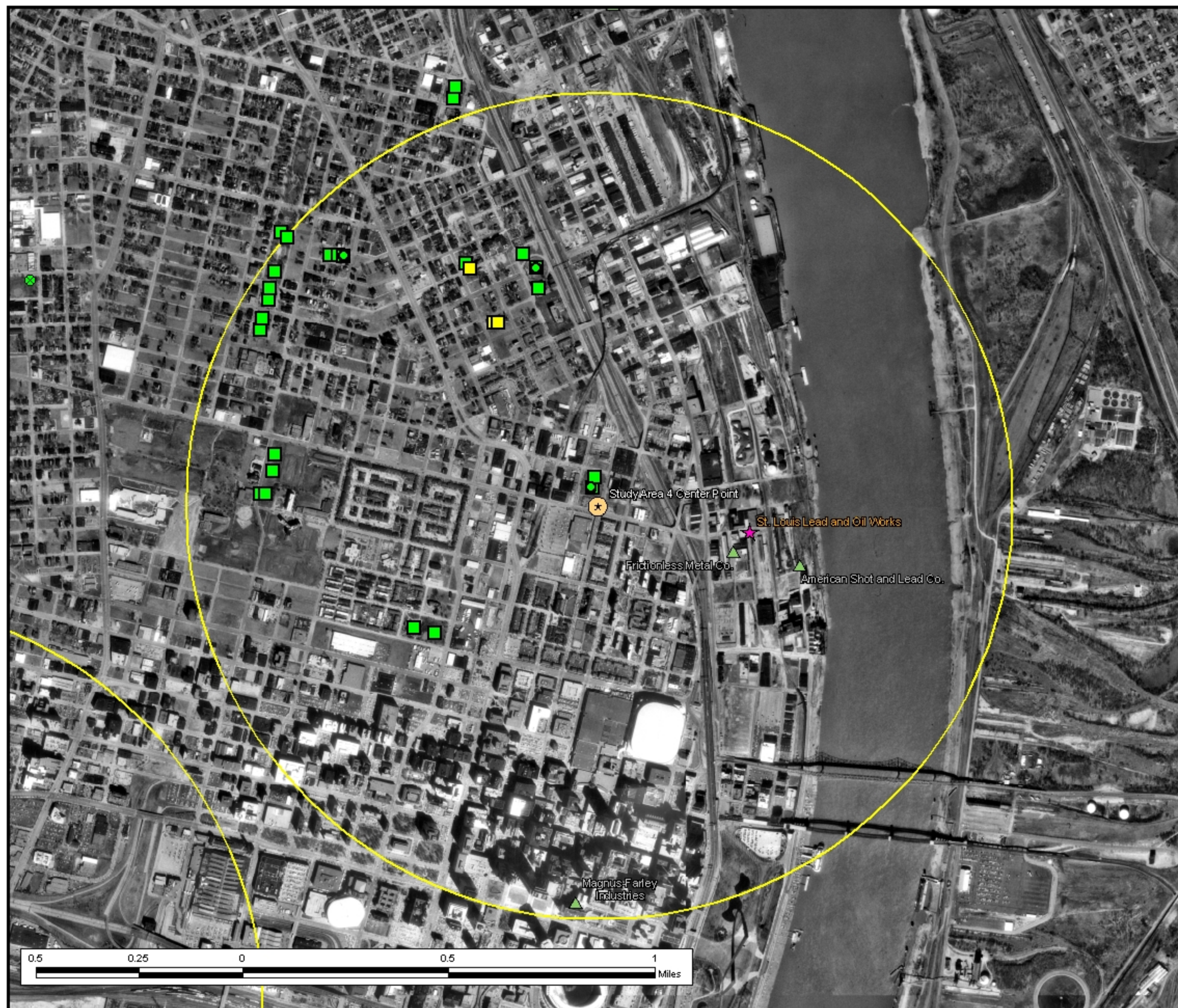
**Project Boundaries**

- One Mile Buffer of Smelter Locations



**Missouri Department of Natural Resources**  
Division of Environmental Quality  
Hazardous Waste Program  
Map Created by David Worley February 2006

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<b>TABLE 2. XRF RESULTS FOR SOIL SAMPLES COLLECTED OCTOBER 26 AND 28, 2004 ST. LOUIS LEAD &amp; OIL WORKS, ST. LOUIS, MISSOURI</b>				
<ul style="list-style-type: none"> <li>● All values listed in parts per million (mg/kg)</li> <li>● NL denotes benchmark value not listed in reference source</li> <li>● Sample results in bold are significantly<sup>1</sup> above background concentrations</li> <li>● Circled sample results exceed EPA PRG Residential Use Value<sup>4</sup></li> </ul>				
Location	XRF Sample	Sample ID	Sample Type*	Pb Average
Mullanphy Park	HWP040084	SLLO01P01SS01	SS	187.1
	HWP040086	SLLO01P02SB01	SB	<b>198.6</b>
	HWP040087	SLLO01P02SS02	SS	<b>312.4</b>
Murphy Park	HWP040088	SLLO02P01SS05	SS	<b>286.3</b>
	HWP040089	SLLO02P02SS06	SS	170.7
	HWP040090	SLLO02P03SS07	SS	263.7
	HWP040091	SLLO02P04SS08	SS	152.9
Jackson Park	HWP040092	SLLO03P01SS09	SS	44.1
	HWP040093	SLLO03P02SB03	SB	121.9
	HWP040094	SLLO03P02SS10	SS	122.2
	HWP040095	SLLO03P03SS11	SS	144.5
St. Louis Place Park	HWP040097	SLLO04P01SS12	SS	72.3
	HWP040099	SLLO04P02SS13	SS	59.8
	HWP040100	SLLO04P03SS14	SS	91.6
	HWP040101	SLLO04P04SS15	SS	113.2
	HWP040102	SLLO04P05SS16	SS	155.5
	HWP040103	SLLO04P06SS17	SS	151.7
	HWP040104	SLLO04P07SS18	SS	<b>267.6</b>
Strodtman Park	HWP040105	SLLO05P01SS19	SS	71.5
	HWP040106	SLLO05P02SS20	SS	<b>315.5</b>
Loretta Hall Park	HWP040108	SLLO06P01SS21	SS	208.5
	HWP040110	SLLO06P02SS22	SS	131.7
1313 & 1314 Benton	HWP040111	SLLO07V01SS23	SS	134.5
	HWP040112	SLLO07V02SS24	SS	<b>1089.5</b>
1904 Montgomery	HWP040113	SLLO08V01SB04	SB	<b>142.3</b>
	HWP040114	SLLO08V01SS25	SS	220.3
1920 Montgomery	HWP040115	SLLO09V01SS26	SS	185.1
1922 Montgomery	HWP040116	SLLO10V01SS27	SS	93.5
1316 Monroe	HWP040118	SLLO11V01SS28	SS	<b>505.4</b>
	HWP040120	SLLO11V02SS29	SS	<b>804.4</b>
<b>Average Background SS and SB</b>				88.2 and 41.0
<b>SCDM<sup>2</sup></b>				NL
<b>CALM<sup>3</sup></b>				260
<b>EPA PRG<sup>4</sup></b>				400

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use.

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

\* SB - subsurface soil sample collected from 3 -6 inches in depth.

SS - surface soil sample collected from 0-2 inches in depth.



**Photograph 1**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
May 18, 2006 by Greg Bach  
DEQ, HWP, Superfund

The former St. Louis Lead & Oil Works  
site location. View from Cass St. south  
towards a paved parking lot.



**Photograph 2**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
May 18, 2006 by Greg Bach  
DEQ, HWP, Superfund

The former St. Louis Lead & Oil Works  
site location. View from Cass St. And  
1st St. west towards a paved/gravel  
parking lot.



**Photograph 3**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
May 18, 2006 by Greg Bach  
DEQ, HWP, Superfund

The former St. Louis Lead & Oil Works  
site location. View from O'Fallon St.  
and 1st St. north towards a electrical  
substation.





**Photograph 4**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 26, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Mullanphy Park, Sample Location 1.  
View looking north along 11th St.  
towards ball field.



**Photograph 5**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 26, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Mullanphy Park, Sample Location 1.  
View looking south along 11th St.  
towards ball field.



**Photograph 6**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 26, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Murphy Park, Sample Location 2. View  
looking east towards front entrance.



**Photograph 7**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 26, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Murphy Park, Sample Location 2. View  
looking north.



**Photograph 8**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 26, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Jackson Park, Sample Location 3. View  
looking northeast from North Market St.



**Photograph 9**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 26, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Jackson Park, Sample Location 3. View  
looking northeast towards ballfield.





**Photograph 10**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

St. Louis Place Park, Sample Location 4.  
View looking south from north end of  
the park near St. Louis St.



**Photograph 11**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

St. Louis Place Park, Sample Location 4.  
View looking south from North Market  
St.



**Photograph 12**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

St. Louis Place Park, Sample Location 4.  
View looking north towards St. Louis St.



**Photograph 13**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Strodtman Park, Sample Location 5.  
View looking north from Palm St.



**Photograph 14**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Strodtman Park, Sample Location 5.  
View looking northwest towards ball  
field.



**Photograph 15**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Loretta Hall Park, Sample Location 6.  
View looking west from 14th St.





**Photograph 16**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

Loretta Hall Park, Sample Location 6.  
View looking south along Selby St.



**Photograph 17**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
October 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

1313 & 1314 Benton St., Sample  
Location 7. View looking north from  
Benton and 14th St.



**Photograph 18**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
November 3, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

1904 Montgomery St., Sample Location  
8. View looking south from  
Montgomery and 14th St.



**Photograph 19**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
November 3, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

1920 Montgomery St., Sample Location  
9. View looking south from  
Montgomery St.



**Photograph 20**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
November 3, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

1922 Montgomery St., Sample Location  
10. View looking south from  
Montgomery St.



**Photograph 21**

St. Louis Lead & Oil Works Site,  
St. Louis, Missouri. Photo taken on  
November 3, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

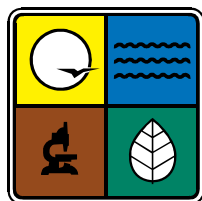
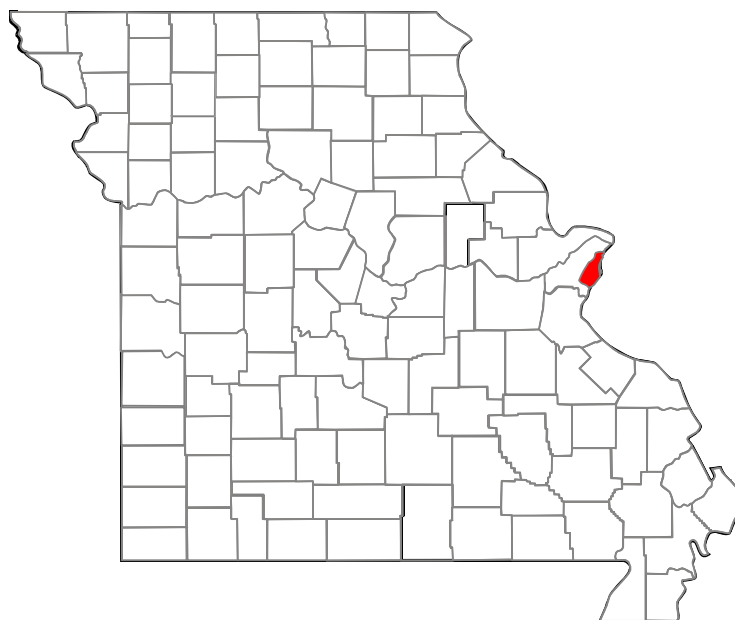
1316 Monroe St., Sample Location 11.  
View looking north toward Monroe St.



# **PRE-CERCLIS SITE SCREENING REPORT**

St. Louis Smelting & Refining Works Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

<b>I. SITE NAME AND LOCATION</b>			
<b>Name:</b> St. Louis Smelting and Refining Works		<b>Alias:</b>	
<b>Address or other Location Identifier:</b> Manchester Avenue and Macklind Avenue			
<b>City:</b> St. Louis	<b>County:</b> St. Louis	<b>State:</b> MO	<b>Zip:</b> 63110
<p><b>Directions to Site:</b> From the intersection of Interstate 270 and Interstate 64, travel east on Interstate 64 to Exit 36A, Kingshighway Boulevard. Turn south (right) on Kingshighway Boulevard and continue for three blocks to Manchester Avenue. Turn right on Manchester Avenue and travel approximately 0.5 miles to Macklind Avenue and turn left. The site was located southeast of the intersection of Manchester and Macklind.</p> <p style="text-align: right;"><b>Map Attached:</b> <u>  X  </u></p>			
<b>II. SITE REFERRAL INFORMATION</b>			
<b>Referred By:</b> Citizen petition to the Environmental Protection Agency (EPA), Region 7		<b>Date of Referral:</b> 11/13/03	
<b>Reason for Referral (if applicable):</b> Concern regarding lead contamination in surface soils near former smelters.			
<b>Mailing Address:</b>			
<b>City:</b>		<b>State:</b>	<b>Zip:</b>
<b>Telephone:</b>		<b>Fax:</b>	
<b>III. SITE INFORMATION</b>			
<b>Type of Facility:</b> Former lead smelter or processing facility		<b>Type of Ownership:</b>	
<b>Owner Name:</b> Unknown			
<b>Mailing Address:</b>			
<b>City:</b>		<b>State:</b>	<b>Zip:</b>
<b>Telephone:</b>		<b>Fax:</b>	
<b>Operator Name (if different from owner):</b>			
<b>Mailing Address:</b>			
<b>City:</b>		<b>State:</b>	<b>Zip:</b>
<b>Telephone:</b>		<b>Fax:</b>	
<b>Current Site Status:</b>		<b>Years of Operation:</b>	
<p><b>Operational History:</b></p> <p>In November of 2003, a citizen petitioned the EPA to determine the potential for soil contamination resulting from operation of former lead smelters within the City of St. Louis (Reference 5). It is common to find lead contamination in soils, groundwater, and surface water surrounding lead mines, mills and smelter sites. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead and other metals which may have been deposited in surface soils both on and surrounding the sites.</p> <p>The St. Louis Smelting and Refining Works site operated from 1891 to 1949. The furnaces at this site could yield approximately 150,000 tons of lead per year. The site was referred to the Missouri Department of Natural Resources</p>			



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

on November 13, 2003 by EPA Region 7. The St. Louis Smelting and Refining Works was cited the 1908 edition of *Lead and Zinc in the United States* and the 1894 edition of *Missouri Geological Survey, Lead and Zinc Deposit* (Reference 5). This site was one of fifteen sites investigated as part of the Former St. Louis Lead and Zinc Smelting and Processes Sites study.

## IV. CERCLA APPLICABILITY [40 CFR 300.410(E)]

1. Is there a release as defined by the NCP? Yes X No     

**Explain:**

A release of lead was not documented in the surface soil samples within one mile of the former facility.

*(A RELEASE Is Defined As Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Or Disposing Into The Environment (Including The Abandonment Of Barrels, Containers, And Other Closed Receptacles Containing Any Hazardous Substances Or Pollutant Or Contaminant), But Excludes: Workplace Exposures; Engine Exhaust Emissions; Nuclear Releases Otherwise Regulated; And The Normal Application Of Fertilizer. For Purposes Of The NCP, Release Also Means Threat Of Release.)*

2. Is the source a facility or vessel as defined by the NCP? Yes      No X

**Explain:**

No release was documented.

*(A FACILITY Is Defined As Any Building, Structure, Installation, Equipment, Pipe Or Pipeline (Including Any Pipe Into A Sewer Or POTW), Well, Pit, Pond, Lagoon, Impoundment, Ditch, Landfill, Storage Container, Motor Vehicle, Rolling Stock, Or Aircraft Or Any Site Or Area, Where A Hazardous Substance Has Been Deposited, Stored, Disposed Of, Or Placed, Or Otherwise Come To Be Located; But Does Not Include Any Consumer Product In Consumer Use Or Any Vessel. A VESSEL Is Defined As Any Description Of Watercraft Or Other Artificial Contrivance Used, Or Capable Of Being Used, As A Means Of Transportation On Water Other Than A Public Vessel.)*

3. Does the release involve either a hazardous substance, pollutant or contaminant as defined by the NCP? Yes      No X

**Explain:**

No release was documented.

*(A HAZARDOUS SUBSTANCE Means Any Substance, Element, Compound, Mixture, Solution, Hazardous Waste, Toxic Pollutant, Hazardous Air Pollutant, Or Imminently Hazardous Chemical Substance Or Mixture Designated Pursuant To The CWA, CERCLA, SDWA, CAA Or TSCA. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas. The Definition Of POLLUTANT Or CONTAMINANT Includes, But Is Not Limited To, Any Element, Substance, Compound, Or Mixture, Including Disease-Causing Agents, Which After Release Into The Environment And Upon Exposure, Ingestion, Inhalation, Or Assimilation Into Any Organism, Either Directly From The Environment Or Indirectly By Ingestion Through Food Chains, Will Or May Reasonably Be Anticipated To Cause Death, Disease, Behavioral Abnormalities, Cancer, Genetic Mutation, Physiological Malfunctions Or Physical Deformations, In Such Organisms Or Their Offspring. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas.)*

4. Is the release subject to the limitations on response? Yes      No X

**Explain:**

No release was documented.

*(The LIMITATIONS ON RESPONSE Provisions Of The NCP (40 CFR 300.400(B) States That Removals Shall Not Be Undertaken In Response To A Release: Of A Naturally Occurring Substance In Its Unaltered Or Natural Form; From Products That Are A Part Of The Structure Of, And Result In Exposure Within, Residential Buildings Or Business Or Community Structures; Or Into Public Or Private Drinking Water Supplies Due To Deterioration Of The System Through Ordinary Use.)*

5. Is there a potential for other federal or state response mechanisms? Yes      No X

If so, identify the appropriate program:

     RCRA                           NRC                           FIFRA                           UST  
     State VCP                           Other State Deferral                           Other Federal (      )

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**Explain:**

## V. PATHWAY EVALUATION

### 1. Source and Waste Characteristics

**Source Types and Locations:**

**Size of Sources:**

**Waste Types and Quantities:**

**Hazardous Substances Present:**

### 2. Groundwater Use and Characteristics Within 4 Miles

**General Hydrology:**  
Unknown

**Are Karst Features Present on or Near Site:** Unknown

**Depth to Shallowest Groundwater:** Unknown

**Groundwater Wells Within 4 Miles:** Unknown

**Private Wells:**

**Municipal Wells:**

**Industrial/Agricultural Wells:**

**Locations and Populations Served (if known):**

**Distance to Nearest Drinking Water Well:** Unknown

### 3. Surface Water Use and Characteristics

**Is Site in a Flood Plain:** Unknown      **If Yes,**    \_\_\_ 10 year            \_\_\_ 100 year            \_\_\_ 500 year

**Distance to Nearest Surface Water:** Unknown  
(If within 2 miles, fill out surface water pathway)

**List Surface Water Bodies Within 15 Downstream Miles:**

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**Drinking Water Intakes Within 15 Downstream Miles:** Unknown

**Locations and Populations Served (if known):**

**Fisheries, Sensitive Environments or Wetlands Within 15 Downstream Miles:** Unknown

**Significant Features (if known or applicable):**

## 4. Soil and Air Exposure Characteristics

**Number of People Living Within 200 Feet of Site:** Unknown, heavy urban area.

**Number of Schools or Daycares Within 200 Feet of Site:** Unknown

**General Population Within 4 Miles (rural, small city, heavy urban area, etc.):** Heavy urban

**Number of Workers On-Site:**

**Any terrestrial sensitive environments and/or wetlands present on-site?** Yes \_\_\_\_ No \_\_\_\_

**Is site access restricted?** Yes \_\_\_\_ No X

## VI. SUPERFUND SITE SCREENING CRITERIA [40 CFR 300.410(e)]

**1. Does the quantity or concentration of hazardous substances warrant response?** Yes \_\_\_\_ No X

### Explain:

A total of thirteen soil samples were collected from three sampling locations within a one-mile radius of this site.

Lead concentrations for sampling locations within one mile of the site ranged from 20 ppm to 175 ppm. No samples exceeded the EPA PRG of 400 ppm lead. No samples exceeded three times the background concentration of lead established for this site.

**2. Has a PRP been identified?** Yes \_\_\_\_ No X

### Explain:

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

3. Is there an actual or potential exposure to hazardous substances, pollutants or contaminants?

Yes \_\_\_\_ No X

**Explain:**

Lead concentrations for sampling locations within one mile of the site did not exceed three times the background concentration or the EPA PRG residential screening value of 400 ppm lead. A release has not been documented.

4. Is there an actual or a potential threat for contamination of drinking water supplies?

Yes \_\_\_\_ No X

**Explain:**

At this time, a threat to drinking water supplies is not expected. Groundwater contamination is unlikely because a release has not been documented.

5. Are there hazardous substances, pollutants or contaminants in drums, barrels or bulk storage containers?

Yes \_\_\_\_ No X

**Explain:**

No drums, barrels, or bulk storage containers were noted in the residential areas sampled.

6. Are there high levels of hazardous substances, pollutants or contaminants in surface soils?

Yes \_\_\_\_ No X

**Explain:**

Soil on-site contained levels of lead below the EPA PRG screening level of 400ppm lead for residential settings.

*("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)*

7. Are there conditions on site which may be susceptible to impact from adverse weather conditions?

Yes \_\_\_\_ No X

**Explain:** A release has not been documented.

8. Is there a threat of fire or explosion?

Yes \_\_\_\_ No X

**Explain:**



## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

9. Are there other situations or factors which warrant further Superfund response?

Yes ☐ No ☒

Explain:

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

### SITE SCREENING FINDINGS

Answer the following questions as support for the site recommendation.

Yes	No	Condition or Factor	Yes	No	Condition or Factor
	X	Is there a release or threat of release?		X	Is there a direct soil exposure pathway threat?
	X	Is the source a facility or vessel?		X	Are there high levels of contaminants in surface soils?
	X	Does the release involve a hazardous substance, pollutant, or contaminant?		X	Is there an air pathway threat?
	X	Is the site subject to response limitations?		X	Is there a threat of fire or explosion?
	X	Does the quantity or concentration of hazardous substances warrant response?		X	Are there drums, barrels, or bulk storage containers present?
	X	Are there actual or potential exposure threats?		X	Is the site susceptible to adverse weather conditions?
	X	Is there an actual or a potential threat for contamination of drinking water supplies?		X	Is there a willing/capable PRP response?
	X	Is there a surface water pathway threat?		X	Can the site be referred to another program?

### SITE SCREENING RECOMMENDATIONS

X	<b>Superfund CERCLIS Entry Not Warranted No Further Superfund Response Action Required</b>
	<b>Superfund CERCLIS Entry Warranted Not Recommended For CERCLIS Entry At This Time – Other Response Action Planned</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Additional Integrated Assessment Recommended</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Removal Action Recommended</b> <i>(Complete A Removal Evaluation Form)</i> ___ Emergency              ___ Time-Critical              ___ Non-Time-Critical

**Comments:**

The St. Louis Smelting and Refining Works Site is not recommended for entry into CERCLIS at this time. Sampling documented that lead was present below the EPA PRG residential screening levels and below three times the background concentration in surface soils within one mile of the site. There is no evidence of wide spread contamination due to smelting activities in the area. A release has not been documented.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

### VIII. ADDITIONAL INFORMATION OR COMMENTS

**PREPARED BY:**

NAME: Greg Bach SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**REVIEWED BY:**

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

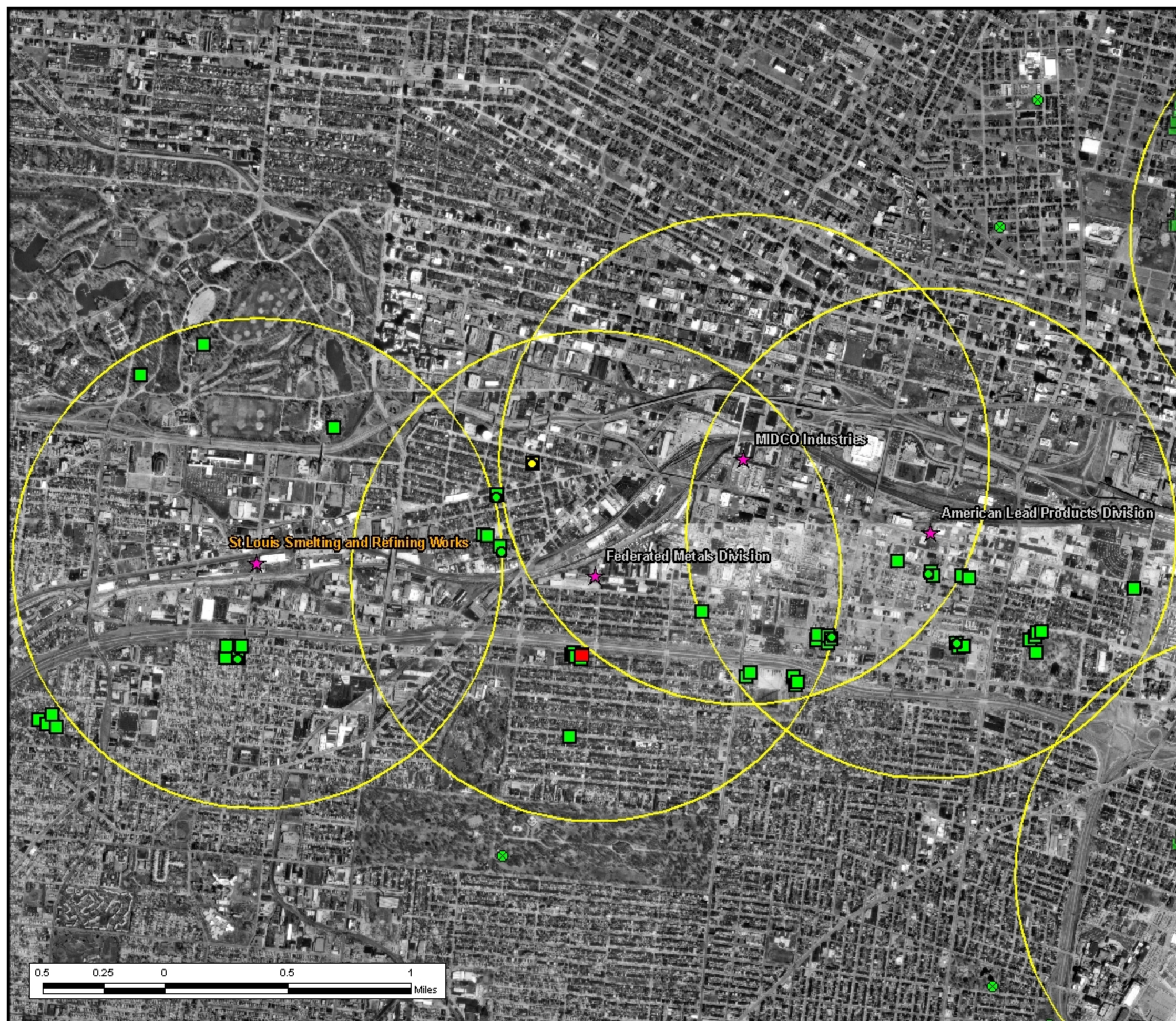
**APPROVED BY:**

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_



**Figure 1**

American Lead Products Co., Federated Metals Division,  
MIDCO Industries and St. Louis Smelting & Refining Works  
St. Louis City, MO



**Legend**

**Smelter Locations**

**Project Type**

- ★ Site Screening
- ★ Site Reassessment
- ▲ Desk Top Review

**Surface Soil Samples**

**Average Pb**

- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

**Subsurface Soil Samples**

**Average Pb**

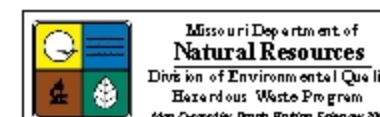
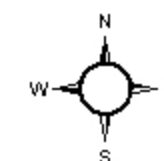
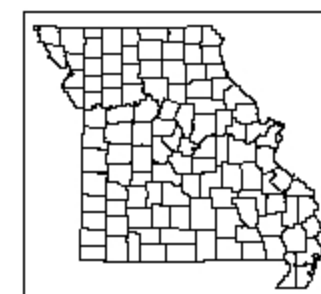
- Clean (<400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (>1,199 ppm)

**Soil Background Samples**

- Background Soil Samples

**Project Boundaries**

- One Mile Buffer of Smelter Locations



Although all data was used in this map, it may have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The use of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.



<b>TABLE 2. XRF RESULTS FOR SOIL SAMPLES COLLECTED JANUARY 24 AND 25, 2005 ST. LOUIS SMELTING &amp; REFINING WORKS, ST. LOUIS, MISSOURI</b>				
<ul style="list-style-type: none"> <li>● All values listed in parts per million (mg/kg)</li> <li>● NL denotes benchmark value not listed in reference source</li> <li>● Sample results in bold are significantly<sup>1</sup> above background concentrations</li> </ul>				
<b>Location</b>	<b>XRF Sample</b>	<b>Sample ID</b>	<b>Sample Type</b>	<b>Pb Average</b>
Forest Park	HWP050006	SSRW02P01SS03	SS	135.0
	HWP050007	SSRW02P02SS04	SS	88.9
	HWP050008	SSRW02P03SS05	SS	118.6
Berra Park	HWP050012	SSRW04P01SS08	SS	174.8
	HWP050013	SSRW04P02SS09	SS	154.0
	HWP050014	SSRW04P03SS10	SS	49.2
	HWP050015	SSRW04P04SS11	SS	20.4
	HWP050016	SSRW04P05SS12	SS	56.1
	HWP050017	SSRW04P01SS03	SS	173.5
Clifton Park	HWP050020	SSRW05P01SS13	SS	128.8
	HWP050021	SSRW05P02SS14	SS	109.6
	HWP050022	SSRW05P03SS15	SS	97.3
	HWP050023	SSRW05P04SS16	SS	100.5
<b>Average Background SS and SB</b>				88.2 and 41.0
<b>SCDM<sup>2</sup></b>				NL
<b>CALM<sup>3</sup></b>				260
<b>EPA PRG<sup>4</sup></b>				400

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use.

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

\* SB - subsurface soil sample collected from 3 -6 inches in depth.

SS - surface soil sample collected from 0-2 inches in depth.



**Photograph 1**

St. Louis Smelting & Refining Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Walsh & Associated building  
located in St. Louis Smelting & Refining  
Works area, Manchester & Macklind  
Streets. View looking northeast.



**Photograph 2**

St. Louis Smelting & Refining Works Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of industrial building located in St.  
Louis Smelting & Refining Works area,  
Manchester, Macklind & Aero Streets.  
View looking northwest.



**Photograph 3**

St. Louis Smelting & Refining Works Site,  
St. Louis, Missouri. Photo taken on January  
24, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Forest Park, view of Forest Park sampling  
location 2. View is facing west from Carr  
Drive. This sampling location is east of the  
St. Louis Zoo and north of Interstate  
64/Highway 40.





**Photograph 4**

St. Louis Smelting & Refining Works Site,  
St. Louis, Missouri. Photo taken on January  
24, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Forest Park, view of Forest Park sampling  
location 2. View is facing east from Union  
Drive. This sampling location is east of the  
St. Louis Zoo and north of Interstate  
64/Highway 40 and approximately 100 yards  
north of the Jewel Box.



**Photograph 5**

St. Louis Smelting & Refining Works Site,  
St. Louis, Missouri. Photo taken on January  
24, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Forest Park, view of Forest Park sampling  
location 2. View is facing southeast from  
east side of the St. Louis Science Center  
Planetarium. This sampling location is east  
of the St. Louis Zoo and north of Interstate  
64/Highway 40.



**Photograph 6**

St. Louis Smelting & Refining Works Site  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Berra Park, view of Berra Park sampling  
location 4. View is facing west from  
Macklind Road.





**Photograph 7**

St. Louis Smelting & Refining Works Site, St. Louis, Missouri. Photo taken on January 25, 2005 by Rebecca Wells-Albers, DEQ, HWP, Superfund

Berra Park, view of Berra Park sampling location 4. View is facing east from Macklind Road side of park.



**Photograph 8**

St. Louis Smelting & Refining Works Site, St. Louis, Missouri. Photo taken on January 25, 2005 by Rebecca Wells-Albers, DEQ, HWP, Superfund

Berra Park, view of Berra Park sampling location 4. View is facing east from Macklind Road side of park.



**Photograph 9**

St. Louis Smelting and Refining Works Site, St. Louis, Missouri. Photo taken on January 25, 2005 by Rebecca Wells-Albers, DEQ, HWP, Superfund

Clifton Heights Park, view of Clifton Heights Park sampling location 5. View is facing west from Simpson Avenue side of park. Clifton Park is located approximately 1/4 mile south of Interstate 44 and is located the St. Louis neighborhood known as The Hill.





**Photograph 10**

St. Louis Smelting & Refining Works Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Clifton Heights Park, view of Clifton Heights  
Park sampling location 5. View is facing  
west from Simpson Avenue side of park.



**Photograph 11**

St. Louis Smelting & Refining Works Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Clifton Heights Park, view of Clifton Heights  
Park sampling location 5. View is facing  
southeast from Esther Avenue side of park.



**Photograph 12**

St. Louis Smelting & Refining Works Site,  
St. Louis, Missouri. Photo taken on January  
25, 2005 by Rebecca Wells-Albers, DEQ,  
HWP, Superfund

Clifton Heights Park, view of Clifton Heights  
Park sampling location 5. View is facing  
northwest from Esther Avenue side of park.

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## I. SITE NAME AND LOCATION

**Name:** Theodore Hiertz Metal Company

**Alias:** Theo. Hiertz Metal Company

**Address or other Location Identifier:** 8011 Alaska Avenue

**City:** St. Louis

**County:** St. Louis

**State:** MO

**Zip:** 63111

**Directions to Site:** From the intersection of Interstate 44 and Interstate 55, travel south on Interstate 55 to Exit 202b, Loughborough Avenue. Turn left of Loughborough Avenue and continue three blocks to Virginia Avenue. Turn right on Virginia Avenue and travel three blocks to Koeln Street. Turn right on Koeln Street and continue for four blocks to Alaska Avenue. Turn left on Alaska Avenue and arrive at site on the left.

**Map Attached:**   X  

## II. SITE REFERRAL INFORMATION

**Referred By:** Citizen petition to the Environmental Protection Agency (EPA), Region 7

**Date of Referral:** 11/13/03

**Reason for Referral (if applicable):** Concern regarding lead contamination in surface soils near former smelters.

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

## III. SITE INFORMATION

**Type of Facility:** Former lead or zinc smelter or processing facility

**Type of Ownership:**

**Owner Name:** Unknown

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Operator Name (if different from owner):**

**Mailing Address:**

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Current Site Status:**

**Years of Operation:**

### Operational History:

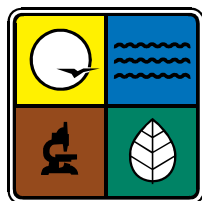
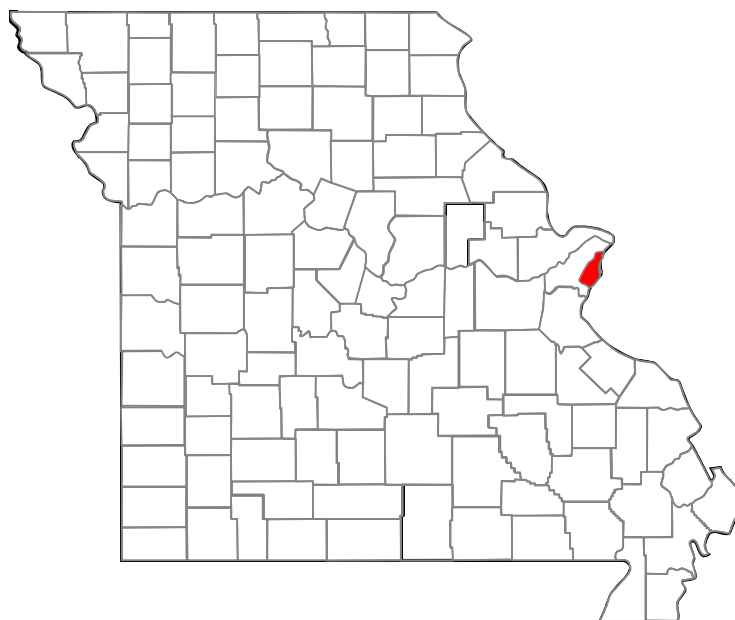
In November of 2003, a citizen petitioned the EPA to determine the potential for soil contamination resulting from operation of former lead smelters within the City of St. Louis (Reference 5). It is common to find lead contamination in soils, groundwater, and surface water surrounding lead mines, mills and smelter sites. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead and other metals which may have been deposited in surface soils both on and surrounding the sites.

According to Lexis Missouri secretary of state information, the Theo. Hiertz Metal Company operated from 1903 to 1968 (Reference 5). The site was referred to the Missouri Department of Natural Resources on November 13, 2003 by EPA Region 7. Theo. Hiertz Metal Company was cited in Appendix A: Battery Lead Smelters from William

# PRE-CERCLIS SITE SCREENING REPORT

Theo. Hiertz Metal Co. Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

Eckel's study published in *American Public Health Journal* (Reference 5). This site was one of fifteen sites investigated as part of the Former St. Louis Lead and Zinc Smelting and Processes Sites study.

## IV. CERCLA APPLICABILITY [40 CFR 300.410(E)]

1. Is there a release as defined by the NCP? Yes X No     

**Explain:**

Sampling documented a release of lead in the surface soils within one mile of the former facility. Surface soils in two areas contained levels of lead that were significantly above (more than three times) background concentrations established for the site.

*(A RELEASE Is Defined As Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Or Disposing Into The Environment (Including The Abandonment Of Barrels, Containers, And Other Closed Receptacles Containing Any Hazardous Substances Or Pollutant Or Contaminant), But Excludes: Workplace Exposures; Engine Exhaust Emissions; Nuclear Releases Otherwise Regulated; And The Normal Application Of Fertilizer. For Purposes Of The NCP, Release Also Means Threat Of Release.)*

2. Is the source a facility or vessel as defined by the NCP? Yes X No     

**Explain:** The contaminated soil (source) is likely attributable to former leaded gasoline use in the area.

*(A FACILITY Is Defined As Any Building, Structure, Installation, Equipment, Pipe Or Pipeline (Including Any Pipe Into A Sewer Or POTW), Well, Pit, Pond, Lagoon, Impoundment, Ditch, Landfill, Storage Container, Motor Vehicle, Rolling Stock, Or Aircraft Or Any Site Or Area, Where A Hazardous Substance Has Been Deposited, Stored, Disposed Of, Or Placed, Or Otherwise Come To Be Located; But Does Not Include Any Consumer Product In Consumer Use Or Any Vessel. A VESSEL Is Defined As Any Description Of Watercraft Or Other Artificial Contrivance Used, Or Capable Of Being Used, As A Means Of Transportation On Water Other Than A Public Vessel.)*

3. Does the release involve either a hazardous substance, pollutant or contaminant as defined by the NCP? Yes X No     

**Explain:**

The hazardous substance released is lead.

*(A HAZARDOUS SUBSTANCE Means Any Substance, Element, Compound, Mixture, Solution, Hazardous Waste, Toxic Pollutant, Hazardous Air Pollutant, Or Imminently Hazardous Chemical Substance Or Mixture Designated Pursuant To The CWA, CERCLA, SDWA, CAA Or TSCA. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas. The Definition Of POLLUTANT Or CONTAMINANT Includes, But Is Not Limited To, Any Element, Substance, Compound, Or Mixture, Including Disease-Causing Agents, Which After Release Into The Environment And Upon Exposure, Ingestion, Inhalation, Or Assimilation Into Any Organism, Either Directly From The Environment Or Indirectly By Ingestion Through Food Chains, Will Or May Reasonably Be Anticipated To Cause Death, Disease, Behavioral Abnormalities, Cancer, Genetic Mutation, Physiological Malfunctions Or Physical Deformations, In Such Organisms Or Their Offspring. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas.)*

4. Is the release subject to the limitations on response? Yes      No X

**Explain:**

*(The LIMITATIONS ON RESPONSE Provisions Of The NCP (40 CFR 300.400(B) States That Removals Shall Not Be Undertaken In Response To A Release: Of A Naturally Occurring Substance In Its Unaltered Or Natural Form; From Products That Are A Part Of The Structure Of, And Result In Exposure Within, Residential Buildings Or Business Or Community Structures; Or Into Public Or Private Drinking Water Supplies Due To Deterioration Of The System Through Ordinary Use.)*



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

5. Is there a potential for other federal or state response mechanisms? Yes ☐ No ☒

If so, identify the appropriate program:

☐ RCRA                      ☐ NRC                      ☐ FIFRA                      ☐ UST  
☐ State VCP                      ☐ Other State Deferral                      ☐ Other Federal (\_\_\_\_)

Explain:

## V. PATHWAY EVALUATION

### 1. Source and Waste Characteristics

**Source Types and Locations:** The contaminated soil (source) is likely attributable to the use of leaded gasoline.

**Size of Sources:** The source sizes are limited to a small area near a major roadway.

**Waste Types and Quantities:** The quantity of contaminated soil is unknown at this time.

**Hazardous Substances Present:** Lead

### 2. Groundwater Use and Characteristics Within 4 Miles

**General Hydrology:**  
Unknown

**Are Karst Features Present on or Near Site:** Unknown

**Depth to Shallowest Groundwater:** Unknown

**Groundwater Wells Within 4 Miles:** Unknown

Private Wells:

Municipal Wells:

Industrial/Agricultural Wells:

**Locations and Populations Served (if known):**

**Distance to Nearest Drinking Water Well:** Unknown

### 3. Surface Water Use and Characteristics

**Is Site in a Flood Plain:** Unknown      **If Yes,**    ☐ 10 year                      ☐ 100 year                      ☐ 500 year

**Distance to Nearest Surface Water:** Unknown  
(If within 2 miles, fill out surface water pathway)

**List Surface Water Bodies Within 15 Downstream Miles:**

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**Drinking Water Intakes Within 15 Downstream Miles:** Unknown

**Locations and Populations Served (if known):**

**Fisheries, Sensitive Environments or Wetlands Within 15 Downstream Miles:** Unknown

**Significant Features (if known or applicable):**

## 4. Soil and Air Exposure Characteristics

**Number of People Living Within 200 Feet of Site:** Unknown, heavy urban area.

**Number of Schools or Daycares Within 200 Feet of Site:** Unknown

**General Population Within 4 Miles (rural, small city, heavy urban area, etc...):** Heavy urban

**Number of Workers On-Site:**

**Any terrestrial sensitive environments and/or wetlands present on-site?** Yes \_\_\_\_ No \_\_\_\_

**Is site access restricted?** Yes \_\_\_\_ No X

## VI. SUPERFUND SITE SCREENING CRITERIA [40 CFR 300.410(e)]

**1. Does the quantity or concentration of hazardous substances warrant response?** Yes \_\_\_\_ No X

### Explain:

Twenty-three soil samples were collected from seven sampling locations within one mile of the former facility location. One location (a park) outside of a one-mile radius from the site was designated as a background location. Three soil samples were collected from this background location.

Lead concentrations for sampling locations within one mile of the site ranged from 42 ppm to 459 ppm. Of the seven locations sampled, one location contained lead in the surface soils above the EPA PRG of 400 ppm lead: a roadway near a park (458 ppm lead).

**2. Has a PRP been identified?** Yes \_\_\_\_ No X

### Explain:

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

3. Is there an actual or potential exposure to hazardous substances, pollutants or contaminants?

Yes X No    

**Explain:**

Exposure to contaminated soil is possible through contact with the soil. However, the contaminated soil is limited one small area near busy roadway in a residential area. This area has well-established vegetation.

4. Is there an actual or a potential threat for contamination of drinking water supplies?

Yes     No X

**Explain:**

At this time, a threat to drinking water supplies is not expected. Groundwater contamination is unlikely because the contamination has been deposited into the surface soils and is not believed to be at depth.

5. Are there hazardous substances, pollutants or contaminants in drums, barrels or bulk storage containers?

Yes     No X

**Explain:**

No drums, barrels, or bulk storage containers were noted in the residential areas sampled.

6. Are there high levels of hazardous substances, pollutants or contaminants in surface soils?

Yes     No X

**Explain:**

Soil on-site contained levels of lead greater than the EPA PRG screening level of 400ppm lead but below the time-critical removal action level of 1200ppm lead for residential settings. Additionally, this contaminated soil is localized to one small area along a roadway near a park.

*("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)*

7. Are there conditions on site which may be susceptible to impact from adverse weather conditions?

Yes     No X

**Explain:** The vegetation is well established in the location with contaminated soils. The migration of lead within the surface soils during adverse weather conditions is unlikely.

8. Is there a threat of fire or explosion?

Yes     No X

**Explain:** Lead contaminated soil is not flammable or explosive.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

9. Are there other situations or factors which warrant further Superfund response?

Yes ☐ No ☒

Explain:



# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

### SITE SCREENING FINDINGS

Answer the following questions as support for the site recommendation.

Yes	No	Condition or Factor	Yes	No	Condition or Factor
X		Is there a release or threat of release?	X		Is there a direct soil exposure pathway threat?
X		Is the source a facility or vessel?		X	Are there high levels of contaminants in surface soils?
X		Does the release involve a hazardous substance, pollutant, or contaminant?		X	Is there an air pathway threat?
	X	Is the site subject to response limitations?		X	Is there a threat of fire or explosion?
	X	Does the quantity or concentration of hazardous substances warrant response?		X	Are there drums, barrels, or bulk storage containers present?
X		Are there actual or potential exposure threats?		X	Is the site susceptible to adverse weather conditions?
	X	Is there an actual or a potential threat for contamination of drinking water supplies?		X	Is there a willing/capable PRP response?
	X	Is there a surface water pathway threat?		X	Can the site be referred to another program?

### SITE SCREENING RECOMMENDATIONS

X	<b>Superfund CERCLIS Entry Not Warranted No Further Superfund Response Action Required</b>
	<b>Superfund CERCLIS Entry Warranted Not Recommended For CERCLIS Entry At This Time – Other Response Action Planned</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Additional Integrated Assessment Recommended</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Removal Action Recommended</b> <i>(Complete A Removal Evaluation Form)</i> ___ Emergency              ___ Time-Critical              ___ Non-Time-Critical

#### Comments:

Theo. Hiertz Metal Company Site is not recommended for entry into CERCLIS at this time. Sampling documented that lead was present above EPA PRG residential screening levels in surface soils within one mile of the site. Although the concentrations of lead exceed the EPA PRG screening level, there is no evidence of wide spread contamination due to smelting activities in the area. The lead contamination is localized to a small area near a busy roadway. The contaminated soil (source) is likely attributable to former leaded gasoline use.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

### VIII. ADDITIONAL INFORMATION OR COMMENTS

The eastern portion of the one-mile radius for the Theo. Hiertz Metal Company Site overlaps the western portion of the one-mile radius for the Glendale Zinc Works Site. Areas sampled in this overlapping portion were collected to represent both sites. Both sites share the sampling results for all but one location and, therefore, the reports show identical information for these shared locations.

**PREPARED BY:**

NAME: Greg Bach

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**REVIEWED BY:**

NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

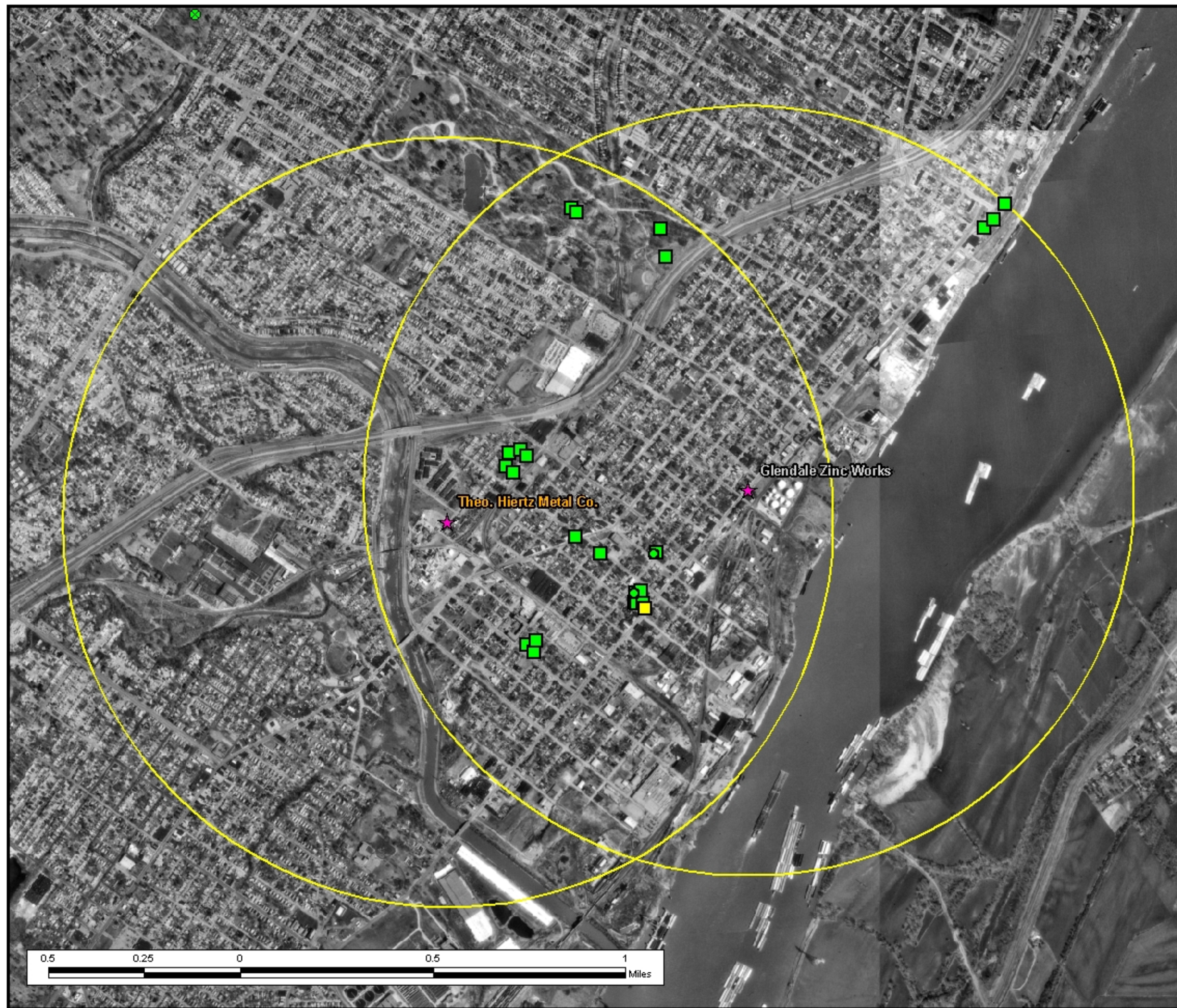
**APPROVED BY:**

NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_





**Figure 1**

Glendale Zinc Works and Theo. Hiertz Metal Co.  
St. Louis City, MO

**Legend**

**Smelter Locations**

**Project Type**

- ★ Site Screening
- ★ Site Reassessment
- ▲ Desk Top Review

**Surface Soil Samples**

**Average Pb**

- Clean (< 400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (> 1,199 ppm)

**Subsurface Soil Samples**

**Average Pb**

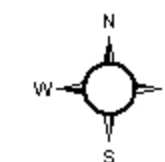
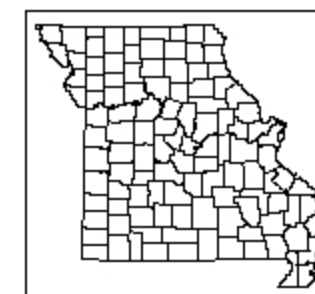
- Clean (< 400 ppm)
- Non-Time Critical (400 - 1,199 ppm)
- Time Critical (> 1,199 ppm)

**Soil Background Samples**

- Background Soil Samples

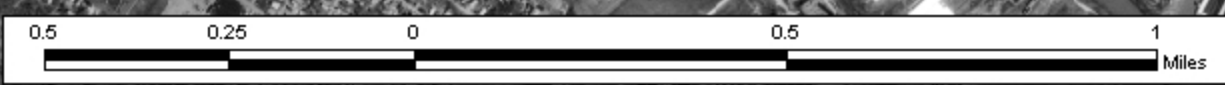
**Project Boundaries**

- One Mile Buffer of Smelter Locations



Missouri Department of  
**Natural Resources**  
Division of Environmental Quality  
Hazardous Waste Program  
Map Created by: David W. Hering, February 2004

Although all data was used in creating this map, the Missouri Department of Natural Resources, its employees, contractors, or consultants, do not warrant, represent or imply, or make any representation as to the accuracy of the data and related materials. The use of this map shall not constitute any such warranty, and no responsibility is assumed by the department for the use of these data or related materials.





<b>TABLE 2. XRF RESULTS FOR SOIL SAMPLES COLLECTED SEPTEMBER 28 AND 30 AND OCTOBER 5, 2004 THEO. HIERTZ METAL CO.*, ST. LOUIS, MISSOURI</b>				
<ul style="list-style-type: none"> <li>● All values listed in parts per million (mg/kg)</li> <li>● NL denotes benchmark value not listed in reference source</li> <li>● Sample results in bold are significantly<sup>1</sup> above background concentrations</li> <li>● Circled sample results exceed EPA PRG Residential Use Value<sup>4</sup></li> </ul>				
Location	XRF Sample	Sample ID	Sample Type	Pb Average
South St Louis Square Park	HWP040001	GNZW01P01SS01	SS	140.6
	HWP040002	GNZW01P02SS02	SS	195.9
	HWP040004	GNZW01P03SB01	SB	<b>152.3</b>
	HWP040005	GNZW01P03SS03	SS	184.7
	HWP040007	GNZW01P04SS04	SS	262.9
	HWP040008	GNZW01P05SS05	SS	122.8
	HWP040009	GNZW01P06SS06	SS	<b>458.6</b>
Carondelet Lions Park	HWP040010	GNZW02P01SS07	SS	42.2
	HWP040011	GNZW02P02SS08	SS	132.1
	HWP040012	GNZW02P03SS09	SS	201.4
Carondelet Park	HWP040014	GNZW03P01SS12	SS	43.6
	HWP040016	GNZW03P02SS13	SS	239.5
	HWP040017	GNZW03P03SS14	SS	58.6
	HWP040018	GNZW03P04SS15	SS	<b>336.5</b>
Villa Memorial Park	HWP040024	GNZW05P01SS19	SS	121.9
Alaska Park	HWP040026	GNZW06P01SS20	SS	41.6
	HWP040027	GNZW06P02SS21	SS	55.7
	HWP040028	GNZW06P03SS22	SS	48.9
	HWP040029	GNZW06P04SS23	SS	47.9
	HWP040030	GNZW06P05SS24	SS	61.5
7700 Michigan	HWP040033	GNZW07V01SS25	SS	132.5
201 Steins	HWP040034	GNZW08V01SB03	SB	<b>137.8</b>
	HWP040035	GNZW08V01SS26	SS	59.8
Average Background SS and SB				88.2 and 41.0
SCDM <sup>2</sup>				NL
CALM <sup>3</sup>				260
EPA PRG <sup>4</sup>				400

<sup>1</sup> Above the PQL when background concentration is < PQL, or three times the background concentration when contaminant is detected in background sample.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix, January 28, 2004, lower of reference dose and cancer risk benchmarks for soil pathway.

<sup>3</sup> CALM - Cleanup Levels for Missouri, September 2001, residential use

<sup>4</sup> EPA PRG - EPA Region 9 Preliminary Remedial Goals, October 2004, residential use.

\*The Theo. Hiertz Site has the same sampling locations as the Glendale Zinc Works Site with the exception of sampling location 4, Bellerive Park.

\*\* SB - subsurface soil sample collected from 3 -6 inches in depth.

SS - surface soil sample collected from 0-2 inches in depth.





**Photograph 1**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of industrial property located in  
Theo. Hiertz Metal Co. site area, Primm  
& Alaska Streets. View looking  
southwest.



**Photograph 2**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of neighboring residential property  
located in Theo. Hiertz Metal Co. site  
area, Primm & Alaska Streets. View  
looking northwest.



**Photograph 3**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2003 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of neighboring building located in  
Theo. Hiertz Metal Co. site area, Primm  
& Alaska Streets. View looking  
northeast.



**Photograph 4**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
September 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of So. St. Louis Square Park,  
Sample location 1, Broadway Ave &  
Courtois St. View looking northwest.



**Photograph 5**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
September 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of So. St. Louis Square Park,  
Sample Location 1. View looking south  
from Schrimmer St. and Pennsylvania St.



**Photograph 6**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
September 28, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of So. St. Louis Square Park,  
Sample Location 1. View looking  
southeast from Pennsylvania St.





**Photograph 7**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Carondelet Lions Park, Sample  
location 2. View looking southeast from  
Virginia St..



**Photograph 8**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Carondelet Lions Park, Sample  
Location 2. View looking south from  
Poepping St. and Virginia St.



**Photograph 9**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of Carondelet Park, Sample  
Location 3. View looking west from  
Arendes St.



**Photograph 10**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 19, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Carondelet Park, Sample  
Location 3. Nagel Ave & Wharf. View  
looking northeast towards soccer field.



**Photograph 11**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Alderman Albert (Red) Villa  
Memorial Park, Sample location 5, Ivory  
Ave. and Schirmer St. View looking  
northeast.



**Photograph 12**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of Alderman Albert (Red) Villa  
Memorial Park, Sample Location 5,  
From Steins St. View looking  
southwest.





**Photograph 13**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Alaska Park, Sample location 6,  
Alaska and Koein Streets. View looking  
south.



**Photograph 14**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

View of Alaska Park, Sample Location 6,  
From Koein Street. View looking  
southwest.



**Photograph 15**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
October 5, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of Alaska Park, Sample Location  
6. View looking south from north end of  
park.



**Photograph 16**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of 7700 Michigan, Sample  
Location 7. View looking south from  
Michigan and Schirmer.



**Photograph 17**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund

View of 201 Steins, Sample location 8,  
Steins and Pennsylvania Ave.



**Photograph 18**

Theo. Hiertz Metal Co. Site,  
St. Louis, Missouri. Photo taken on  
November 22, 2004 by Michael D.  
Giovanini, DEQ, HWP, Superfund.

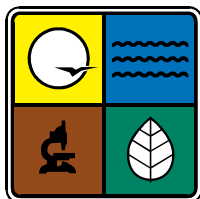
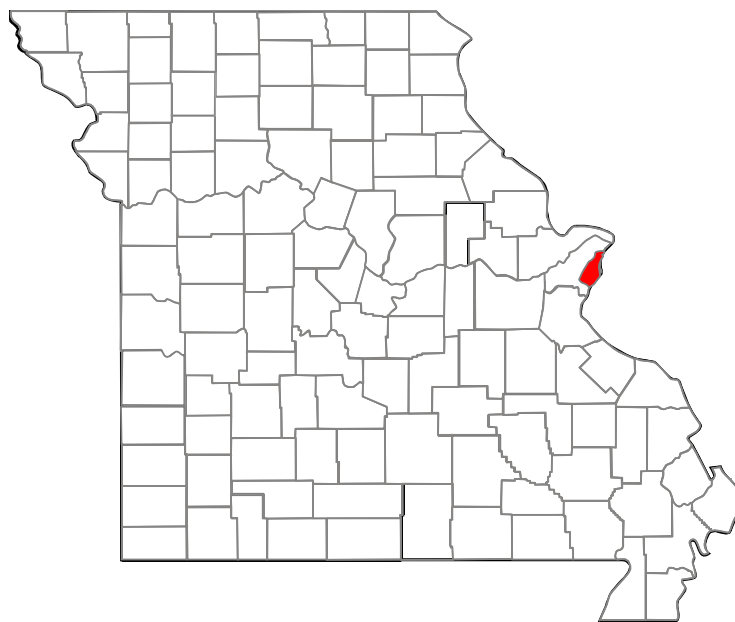
View of 201 Steins, Sample ,Sample  
Location 8. View looking west from  
Steins St.



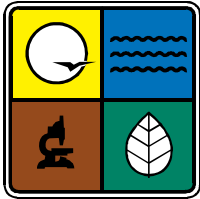
# **DESK TOP REVIEW / SITE RE-ASSESSMENT REPORT**

American Shot & Lead Co. Site  
St. Louis, Missouri  
MOD980631170

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
HAZARDOUS WASTE PROGRAM/SUPERFUND SECTION

Desk Top Review /  
Site Reassessment Decision Form

Site Name: American Shot & Lead Co. EPA ID No.: MOD980631170

Alias: \_\_\_\_\_

Address/Location: Dickson St. and Lewis St.

City/Location: St. Louis County: St. Louis City State: MO Zip Code: 63102

Site Referred By: \_\_\_\_\_

Any Previous Private, State, or Federal Investigations or Assessments?

Yes X No \_\_\_\_\_ If yes, explain (what type of investigation, date, recommendations and current status):

EPA placed the site on CERCLIS 6/1/1981 and completed a PA on 12/1/1981 recommending NFRAP.

DECISION:

( ) 1. Proceed with a Pre-CERCLIS Site Screening to determine CERCLA and /or state eligibility.

( ) 2. Site CERCLA eligible, proceed with site discovery and further assessment under CERCLA:

2a. Qualifier: ( ) High ( ) Medium ( ) Low

2b. Activity Type: ( ) PA ( ) SI ( ) RA ( ) ESI

( ) Other: \_\_\_\_\_

( ) 3. Site deferred or being addressed under another state or federal program:

( X ) 4. No Further Assessment Required (NFRAP)

DISCUSSION / RATIONALE:

Listed as number 14 on the St. Louis Smelters map. No operational information is available at this time. The address was at the corner of Dickson St. and Lewis St. in St. Louis, Ward 7. This is in the 63102 zip code. This zip code has a childhood blood lead prevalence rate of 13.2%. A Preliminary Assessment (PA) was conducted in 1981. The site is an archived NFRAP site with an EPA ID of MOD980631170. No samples were collected from this site. It was determined through a review of historical data, current maps, and a site visit that only a limited number of areas contain surface soil and/or there are no available targets within one mile of the site. No further action is planned for this site at this time.

Number of Hours to Complete DTR: \_\_\_\_\_

DTR Conducted by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

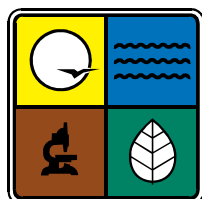
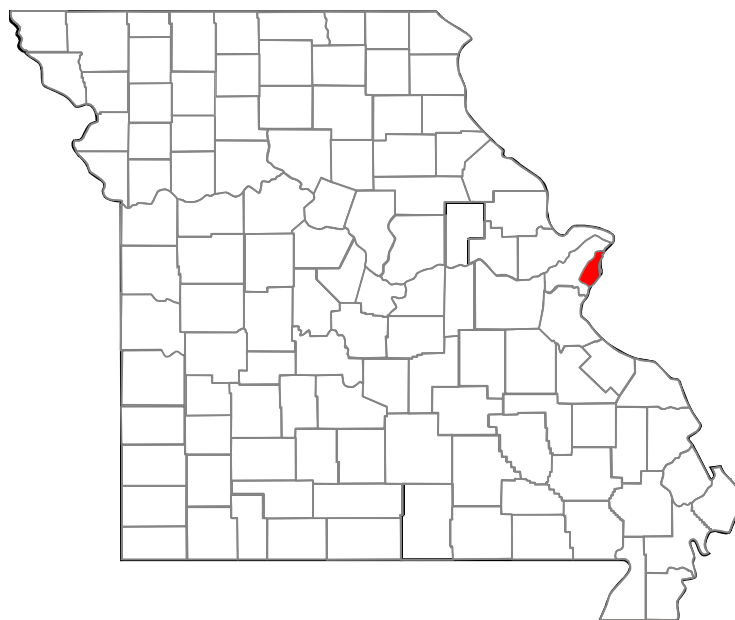
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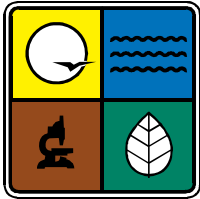
# **DESK TOP REVIEW / SITE RE-ASSESSMENT REPORT**

**Collier White Lead & Oil Co. Site  
St. Louis, Missouri  
MOD980631220**

**August 31, 2006**



**Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program**



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
HAZARDOUS WASTE PROGRAM/SUPERFUND SECTION

Desk Top Review /  
Site Reassessment Decision Form

Site Name: Collier White Lead and Oil Co. EPA ID No.: MOD980631220

Alias: Reed and Hoffman, Charles and Blow and National Lead Company

Address/Location: Corner of Clark Ave and 9<sup>th</sup> St.

City/Location: St. Louis County: St. Louis City State: MO Zip Code: 63102

Site Referred By: Citizens Petition to EPA Region VII

Any Previous Private, State, or Federal Investigations or Assessments?

Yes X No        If yes, explain (what type of investigation, date, recommendations and current status):

EPA placed the site on CERCLIS 6/1/1981 and completed a PA on 10/30/1985 recommending NFRAP.

DECISION:

( ) 1. Proceed with a Pre-CERCLIS Site Screening to determine CERCLA and /or state eligibility.

( ) 2. Site CERCLA eligible, proceed with site discovery and further assessment under CERCLA:

2a. Qualifier: ( ) High ( ) Medium ( ) Low

2b. Activity Type: ( ) PA ( ) SI ( ) RA ( ) ESI

( ) Other: \_\_\_\_\_

( ) 3. Site deferred or being addressed under another state or federal program:

(X) 4. No Further Assessment Required (NFRAP)

DISCUSSION / RATIONALE:

The Collier White Lead & Oil Co. site is a historical lead smelter that is listed on the Missouri Department of Natural Resources' Inventory of Lead and Zinc Smelters in Missouri. Listed as Number 6 on the St. Louis Smelters map. This company was originally Reed and Hoffman. Other owners documented were Charles and Blow, Collier White Lead and Oil Company, and National Lead Company. This smelter operated from 1837 to some time after 1875 (possibly as late as 1922) and produced 10,000 tons annually. The smelter was located near the corner of Clark Avenue and 9<sup>th</sup> Street in St. Louis, Ward 7. This is in the 63102 zip code. This zip code has a childhood blood lead prevalence rate of 13.2%. Ecology and Environment, Inc completed a PA under a contract with EPA in 1985. The PA concluded that due to the presence of pavement covering the site location and due to the lack of background information on this company, no determination could be made as to whether a hazard to the environment exists. The site was NFRAPed and archived. The Brownsfield/Voluntary Cleanup Program is currently reviewing the site. No samples were collected from this site. This site is currently being addressed by BVCP. No further Superfund action is planned for this site at this time.

Number of Hours to Complete DTR: \_\_\_\_\_

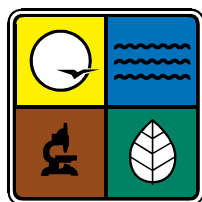
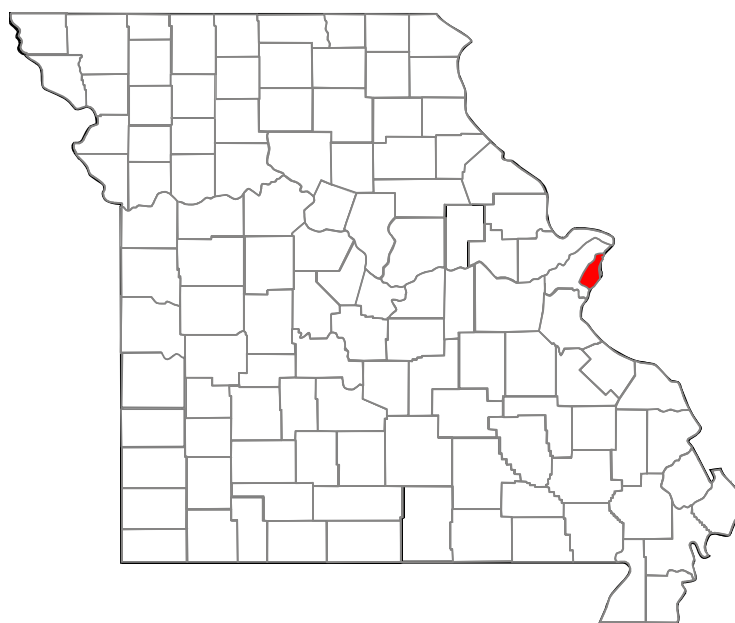
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Approved by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

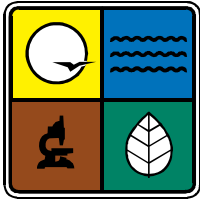
# **DESKTOP REVIEW / PRE-CERCLIS SITE SCREENING REPORT**

Frictionless Metal Co. Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program



**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
HAZARDOUS WASTE PROGRAM/SUPERFUND SECTION**

**Desk Top Review  
Decision Form**

Site Name: Frictionless Metal Company EPA ID No.: \_\_\_\_\_

Alias: \_\_\_\_\_

Address/Location: 1458 Collins Street

City/Location: St. Louis County: \_\_\_\_\_ State: MO Zip Code: 63102

Site Referred By: Monica Espinosa, EPA

Any Previous Private, State, or Federal Investigations or Assessments?

Yes \_\_\_\_\_ No X If yes, explain (what type of investigation, date, recommendations and current status):  
\_\_\_\_\_

**DECISION:**

☐ 1. Proceed with a Pre-CERCLIS Site Screening to determine CERCLA and /or state eligibility.

☐ 2. Site CERCLA eligible, proceed with site discovery and further assessment under CERCLA:

2a. Qualifier: ☐ High ☐ Medium ☐ Low

2b. Activity Type: ☐ PA ☐ SI ☐ RA ☐ ESI

☐ Other: \_\_\_\_\_

☐ 3. Site deferred or being addressed under another state or federal program:

☒ 4. No Further Assessment Required (NFAR)

**DISCUSSION / RATIONALE:**

The Frictionless Metal Company site is a former smelter that is listed on the Missouri Department of Natural Resources' Inventory of Lead and Zinc Smelters in Missouri. For nearly 150 years, the state of Missouri has been one of the world's largest producers of lead and zinc metals. Historically, lead and zinc ores were mined; milled by crushing and separation; and transported to smelters throughout the state to be processed into raw metals.

The department maintains an inventory of lead and zinc smelters in Missouri. The majority of the smelters on the inventory are historic facilities that range from a primitive furnace that smelted as little as one ton of ore from one small lead mine to large smelters that smelted many thousands of tons of ore from several surrounding mines. The smelter sites were identified through reviews of historic documents.

It is common to find lead and/or zinc contamination in soils, groundwater and surface water surrounding lead and zinc mines, mills and smelter sites. Contamination from mining and milling comes from large piles of mill waste on the surface and underground mine workings that penetrate the shallow aquifer. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead, zinc, and other metals, which may have been deposited in surface soils both on and surrounding the sites. Due to the population density of the St. Louis area, there may be many private residences, parks, playgrounds, daycares and schools located within one mile of these sites potentially at risk.

This company was a Tennessee corporation that operated from 1923 to 1952 based on Missouri Secretary of State information. The smelter was located at 1458 Collins Street in St. Louis, Ward 7. This is in the 63102 zip code. This zip code has a childhood blood lead prevalence rate of 13.2%.



This site is located in an industrial area between Interstate 70 and the Mississippi River (see two photos attached). No samples were collected from this site. It was determined through a review of historical data, current maps, and a site visit that only a limited number of areas contain surface soil and/or there are no available targets within one mile of the site.

No further action is planned for this site at this time.

Listed as number 3 on the St. Louis Smelters map.

Number of Hours to Complete DTR: \_\_\_\_\_

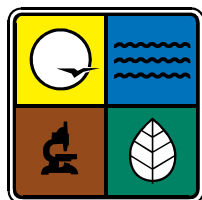
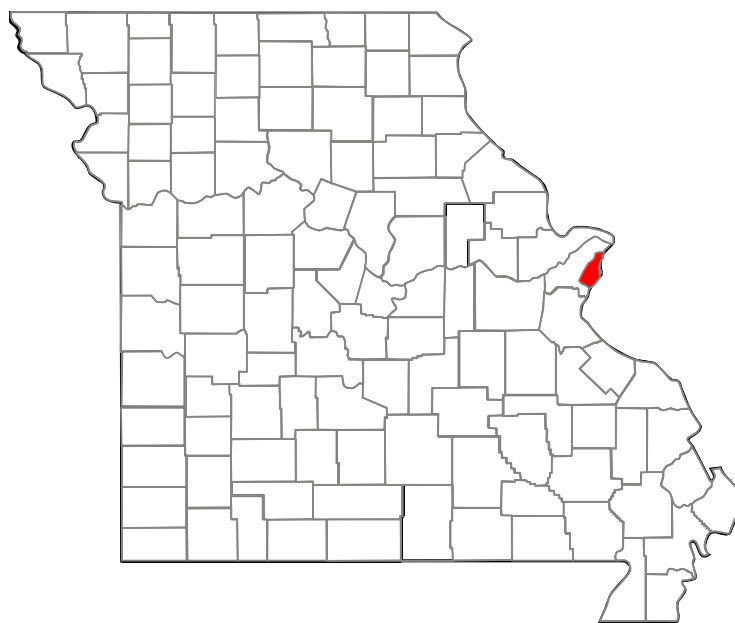
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Approved by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

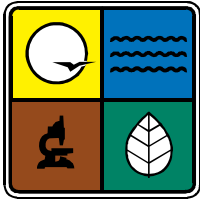
# **DESK TOP REVIEW / PRE-CERCLIS SITE SCREENING REPORT**

Magnus-Farley Industries Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program



**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
HAZARDOUS WASTE PROGRAM/SUPERFUND SECTION**

**Desk Top Review  
Decision Form**

Site Name: Magnus-Farley Industries EPA ID No.: \_\_\_\_\_

Alias: \_\_\_\_\_

Address/Location: 722 Chestnut

City/Location: St. Louis County: \_\_\_\_\_ State: MO Zip Code: 63101

Site Referred By: Monica Espinosa, EPA

Any Previous Private, State, or Federal Investigations or Assessments?

Yes \_\_\_\_\_ No X If yes, explain (what type of investigation, date, recommendations and current status):  
\_\_\_\_\_

**DECISION:**

☐ 1. Proceed with a Pre-CERCLIS Site Screening to determine CERCLA and /or state eligibility.

☐ 2. Site CERCLA eligible, proceed with site discovery and further assessment under CERCLA:

2a. Qualifier: ☐ High ☐ Medium ☐ Low

2b. Activity Type: ☐ PA ☐ SI ☐ RA ☐ ESI

☐ Other: \_\_\_\_\_

☐ 3. Site deferred or being addressed under another state or federal program:

☒ 4. No Further Assessment Required (NFAR)

**DISCUSSION / RATIONALE:**

The Magnus-Farley Industries site is a former smelter that is listed on the Missouri Department of Natural Resources' Inventory of Lead and Zinc Smelters in Missouri. For nearly 150 years, the state of Missouri has been one of the world's largest producers of lead and zinc metals. Historically, lead and zinc ores were mined; milled by crushing and separation; and transported to smelters throughout the state to be processed into raw metals.

The department maintains an inventory of lead and zinc smelters in Missouri. The majority of the smelters on the inventory are historic facilities that range from a primitive furnace that smelted as little as one ton of ore from one small lead mine to large smelters that smelted many thousands of tons of ore from several surrounding mines. The smelter sites were identified through reviews of historic documents.

It is common to find lead and/or zinc contamination in soils, groundwater and surface water surrounding lead and zinc mines, mills and smelter sites. Contamination from mining and milling comes from large piles of mill waste on the surface and underground mine workings that penetrate the shallow aquifer. The contamination around smelters comes from dust fallout from the furnace smokestacks, the production process, and the slag piles. These operations have the potential to produce waste containing high levels of lead, zinc, and other metals, which may have been deposited in surface soils both on and surrounding the sites. Due to the population density of the St. Louis area, there may be many private residences, parks, playgrounds, daycares and schools located within one mile of these sites potentially at risk.

There is no operational information on this site. The address for the site was 722 Chestnut St. in St. Louis, Ward 7. The site is located in the 63101 zip code which has a childhood blood lead prevalence rate of 22.7%.

No samples were collected from this site. It was determined through a review of historical data, current maps, and a site visit

that only a limited number of areas contain surface soil and/or there are no available targets within one mile of the site.

No further action is planned for this site at this time.

Listed as number 5 on the St. Louis Smelters map.

Number of Hours to Complete DTR: \_\_\_\_\_

DTR Conducted by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

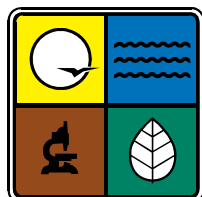
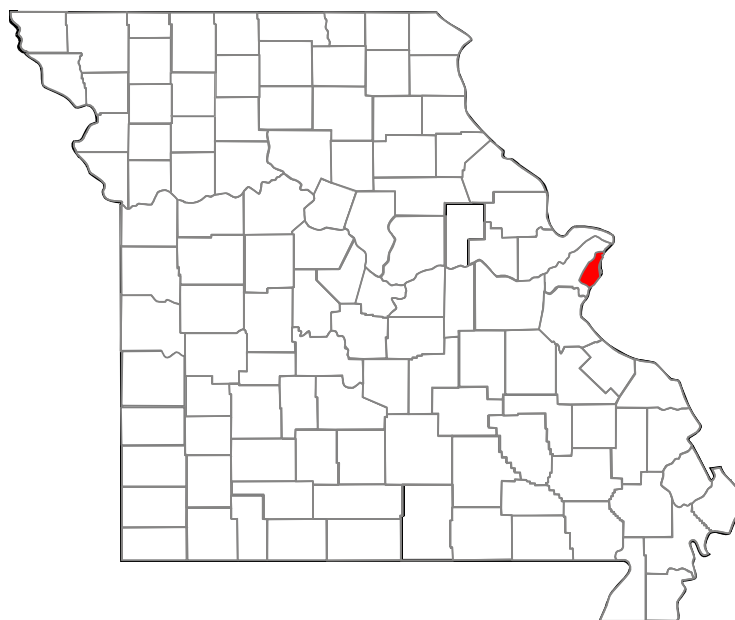
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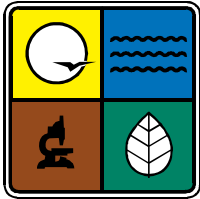
# **DESK TOP REVIEW / PRE-CERCLIS SITE SCREENING REPORT**

Shanfeld Bros. Metal Co. Site  
St. Louis, Missouri

August 31, 2006



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
HAZARDOUS WASTE PROGRAM/SUPERFUND SECTION

Desk Top Review  
Decision Form

Site Name: Shanfeld Bros. Metal Co. EPA ID No.: \_\_\_\_\_

Alias: \_\_\_\_\_

Address/Location: 56 - 70 Dock Street

City/Location: St. Louis County: St. Louis City State: MO Zip Code: 63147

Site Referred By: Monica Espinosa, EPA

Any Previous Private, State, or Federal Investigations or Assessments?

Yes \_\_\_\_\_ No X If yes, explain (what type of investigation, date, recommendations and current status):

DECISION:

( ) 1. Proceed with a Pre-CERCLIS Site Screening to determine CERCLA and /or state eligibility.

( ) 2. Site CERCLA eligible, proceed with site discovery and further assessment under CERCLA:

2a. Qualifier: ( ) High ( ) Medium ( ) Low

2b. Activity Type: ( ) PA ( ) SI ( ) RA ( ) ESI

( ) Other: \_\_\_\_\_

( ) 3. Site deferred or being addressed under another state or federal program:

(X) 4. No Further Assessment Required (NFAR)

DISCUSSION / RATIONALE:

The Shanfeld Bros. Metal Co. site is a former smelter that is listed on the Missouri Department of Natural Resources' Inventory of Lead and Zinc Smelters in Missouri. The Shanfeld Bros. Metal Co. site was located along 56 to 70 Dock Street in St. Louis, Ward 2. The site is listed as Number 2 on the attached St. Louis Lead and Zinc Smelting and Processing Sites map.

This smelter operated from 1946 to 1976. The site is located in a heavy industrial area near railroad tracks and a scrap metal company (see three photos attached). The site location falls within the 63147 Zip Code, which has a childhood blood lead prevalence rate of 26.8%.

No samples were collected from this site. It was determined through a review of historical data, current maps and a site visit that only a limited number of areas contain surface soil and/or there are no available targets within one mile of the site. No further action is planned for this site at this time.

Number of Hours to Complete DTR: \_\_\_\_\_

DTR Conducted by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

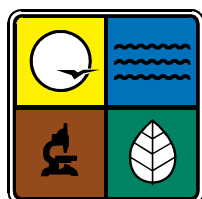
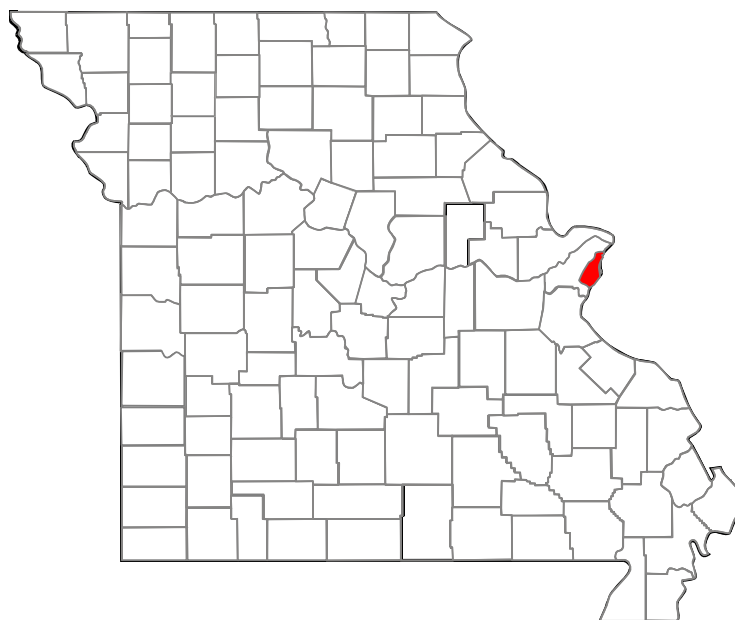
Approved by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# **DESK TOP REVIEW / SITE RE-ASSESSMENT REPORT**

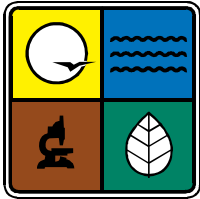
**Southern White Lead & Color Co. Site  
St. Louis, Missouri**

**MOD980631451**

**August 31, 2006**



**Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program**



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
HAZARDOUS WASTE PROGRAM/SUPERFUND SECTION

Desk Top Review /  
Site Reassessment Decision Form

Site Name: Southern White Lead & Color Co EPA ID No.: MOD980631451

Alias: \_\_\_\_\_

Address/Location: Between 2<sup>nd</sup> and Main, along Lombard Street

City/Location: St. Louis County: St. Louis City State: MO Zip Code: \_\_\_\_\_

Site Referred By: DNR/HWP Missouri Historic Lead and Zinc Smelter Inventory

Any Previous Private, State, or Federal Investigations or Assessments?

Yes X No \_\_\_\_\_ If yes, explain (what type of investigation, date, recommendations and current status):

EPA placed the site on CERCLIS on 6/1/1981. DNR completed a PA on 12/01/1984 recommending NFAP.

DECISION:

- ( ) 1. Proceed with a Pre-CERCLIS Site Screening to determine CERCLA and /or state eligibility.
- ( ) 2. Site CERCLA eligible, proceed with site discovery and further assessment under CERCLA:
- 2a. Qualifier: ( ) High ( ) Medium ( ) Low
- 2b. Activity Type: ( ) PA ( ) SI ( ) RA ( ) ESI
- ( ) Other: \_\_\_\_\_
- ( ) 3. Site deferred or being addressed under another state or federal program:
- ( X ) 4. No Further Assessment Required (NFAR)

DISCUSSION / RATIONALE:

The Southern White Lead & Color Co. site is a historical lead and pigment works that is listed on the Missouri Department of Natural Resources' Inventory of Lead and Zinc Smelters in Missouri.

The Southern White Lead & Color Co. was located along Lombard Street, between Second and Main Streets in St. Louis, Ward 7. The site is listed as Number 7 on the attached St. Louis Lead and Zinc Smelting and Processing Sites map. Historic information indicates this facility produced lead-based paints and pigments. Lead processing equipment such as mills, corroding sheds, and melting rooms are noted on historic maps; however, it is not known if actual ore smelting was carried out at the facility. The Southern White Lead & Color Co. facility was one of the two largest lead pigment processing facilities in the country, both located in St. Louis. The facility operated from 1865 through 1909 with six furnaces. The heavy processing of raw lead and lead pigments is likely to have caused a significant amount of lead contamination in soils around the site.

This site is located in a very old industrial area, circa 1900, near a U.S. Interstate Highway 55 overpass and the Mississippi River, near Bentonite (see four photos attached). The population within four miles of the site is 148,653. There are no residential homes in the site area. Through a review of historical data, current maps and a site visit, it was determined that only a limited number of areas contain surface soil and/or there are no available targets within one mile of the site. No soil samples were collected from



this site. No further action is planned for this site at this time.

Number of Hours to Complete DTR: \_\_\_\_\_

DTR Conducted by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_